RESEARCH ARTICLE

ADVANCE RESEARCH JOURNAL OF SOCIAL SCIENCE

Volume 3 | Issue 2 | December, 2012 | 160-162

Evaluation of Front Line Demonstrations on onion (*Allium cepa* L.)

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ARTICLE INFO :

Received : 19.04.2012
Revised : 24.08.2012
Accepted : 29.09.2012

KEY WORDS :

Frontline demonstrations, Technology gap, Extension gap, Technology index, Economics

HOW TO CITE THIS ARTICLE :

Hiremath, S.M. and Hill, J.S. (2012). Evaluation of Front Line Demonstrations on onion (*Allium cepa* L.), *Adv. Res. J. Soc. Sci.*, **3** (2) : 160 - 162.

ABSTRACT

Problems of onion crop production and their solutions at farming situations were studied with the participation of farmers. In this regard, a frontline demonstration for four years on onion was conducted at different locations in Dharwad district. These demonstrations focused on increased productivity of onion per unit area and get the feed back from farmers on the performances of onion variety. The study revealed that over the years Arka Kalyan variety has performed superior over local check. The gross returns, net returns and B:C ratio recorded were highest in Arka kalyan variety compared to local check. Further study reveals the wide yield and management gaps between demonstration and farmers practices.

INTRODUCTION

Onion (*Allium cepa* L.) is one of the important commercial vegetable crops produced in India for both domestic consumption and export. India accounts for 16 per cent of the world's area and occupies the second position after China in production with a share of around 14 per cent (FAOSTAT, 2010). The productivity of onion is much low in India than the world average (Pandey, 2000; Lawande, 2005). In Karnataka major area under onion is under rain fed situation and most of the farmers use their own seed material for cultivation, which is not regulated properly for varietals admixture and consists of a heterogeneous material which reduces productivity. Dharwad district in northern Karnataka is an important onion growing district. Even in Dharwad district yield levels are lower than the state average (Anonymous, 2008). However, the technological break through has no doubt recorded greater strides in augmenting onion production and productivity. But the in-sufficient and improper extension activities are the major factors resulting in non-adoption of improved package developed at research institutions. Further, the replacement ratio of traditional varieties with improved varieties and non-availability of sufficient quantity of quality seeds of improved variety in time, are the major constraints in onion cultivation. Hence, with these in view, the present investigation was undertaken to know the performance of onion variety Arka Kalyan with local variety through Front Line Demonstrations.

METHODS

The present study was conducted in Dharwad district of northern Karnataka. Improved onion variety Arka Kalyan was introduced through frontline demonstrations of Krishi Vigyan Kendra, Saidapur farm Dharwad, from 2006-07 to 2009-10 in the adopted villages of Dharwad district. Each demonstration was conducted in an area of 0.4 ha. adjacent to this, local variety was also grown for comparison. Materials for the study with respect to frontline demonstrations and farmers practices are given in Table 1. The data on production cost and monetary returns were collected from 45 demonstrations and 30 non-demonstration farmers. All the recommended package of practices was followed for both the varieties (Anonymous, 2007). The technology gap, extension gap and technology index were calculated as given by Eswaraprasad *et al*. (1993) and

Samui *et al*. (2000).

OBSERVATIONS AND ANALYSIS

The data presented in Table 2 it is inferred that demonstration yield of Arka Kalyan variety performed better than local. The Arka kalyan variety recorded higher yield of 14.88 t/ ha compared to local. The per cent increase in yield over local was 12.72. The higher average onion yield in demonstration plots compared to local was due to superior varietals characters of Arka Kalyan variety only (Table 1). Such superiority of Arka Kalyan variety over local check was similarly observed by Hiremath *et al.* (2007), Hiremath and Nagaraj (2010) and Hiremath *et al*. (2011). However yield of onion varied in different years which might be due to the variations in soil moisture availability, rain fall, soil type and pest and disease occurrence as well as the change in the location of demonstrations every year (Table 2).

Results from Table 2 revealed that yield of the Front Line Demonstrations and potential yield of the crop was compared to estimate the yields which were further categorized into technology and extension gaps. The technology gap showed the gap in the demonstration yield over the potential yield and it was 34.03 t/ha. This could be due to the lack of awareness about the improved variety and its seed availability. Hence, to narrow down the technology gap awareness about the improved variety appears necessary to educate the farmers and seed production activities for further multiplication

Further extension gap showed the gap in the demonstration yield over farmers yield and it was 1.90 t/ha. This emphasized the need to educate the farmers through various extension means for the adoption of improved variety Arka Kalyan to reverse wider extension gap. The technology index showed the feasibility of the variety at the farmer's field. Table 2 revealed that the technology index 72.39 per cent suggesting the superiority and better performance of variety compared to local.

The data presented in Table 2 reveal the yield and economics related information of Arka Kalyan in comparison to local variety. It is clear from the table that Arka Kalyan variety gave increased yield over local check which was to the tune of 12.72 per cent and the average yield increase over the years varied between 14.00 to 15.50 per cent.

The year wise economics of onion production under frontline demonstrations were estimated and the results have been presented in Table 3. The economic analysis of the data over the years revealed that Arka Kalyan variety recorded higher gross returns (Rs. 83,650/ha), net returns (Rs. 67,800/ha) and B:C ratio (1:3.40) compared local. These results are in line with the findings of Hiremath *et al.* (2007), Hiremath, and Nagaraj (2010) and and Hiremath *et al.* (2011) in Haveri district. Further, by inclusion of Arka Kalyan variety has yielded maximum

Table 1 : Particulars showing the details of onion growing under Front Line Demonstration and existing practice

Sr. No.	Operations	Existing practices	Improved practice demonstrated
1.	Variety used	Use of local/own seeds with varietals admixture and heterogeneous material	Improved high yielding and moderately disease resistant to purple leaf blotch variety, Arka Kalyan seeds from Indian Institute of Horticultural Research, Bengalore
2.	Seed treatment	No seed treatment	Seed treatment with captan (2g/kg seeds)
3.	Method of sowing	Broadcasting	Line sowing
4.	Fertilizer application	Imbalanced application of fertilizer FYM-10 t/ha N:P:K @ 60:30:00 kg/ ha	Application of recommended dose of fertilizer FYM-30/ha N:P:K @ 125:50:120 kg/ ha
5.	Weed management	Hand weeding	Spraying of pendimethalin@1.0kg/ha with one hand weeding at 45 DAS
6.	Sucking pest management	Non-adoption of IPM practices	Adoption of IPM practices by sowing of 4 rows of maize all along the border for effective management of thrips
7.	Post harvest handling at farm level	Un-hygienic and improper handling	Adoption of improved post harvest handling and grading

Table 2 : Productivity of onion, yield gaps and technology index rain fed onion cultivation in Dharwad district (Mean over locations) (n=75)

Year	Potential yield (t/ha)	Yield (t/ha)		% increase over local	Extension gap (t/ha.)	Technology gap (t/ha.)	Technology index (%)
		Demo.	Farmers practice				
2006-07	47	15.20	13.50	11.18	1.70	33.50	71.28
2007-08	47	14.80	12.90	12.84	1.90	34.10	72.55
2008-09	47	15.50	13.00	16.13	2.50	34.00	72.34
2009-10	47	14.00	12.50	10.71	1.50	34.50	73.40
Mean	47	14.88	12.98	12.72	1.90	34.03	72.39

Table 3 : Economics of onion production under frontline demonstrations in Dharwad district (Mean over locations) (n=75)

Year	Yield (t/ha)		Cost of cultivation (Rs./ha.)		Gross returns (Rs./ha.)		Net returns (Rs./ha.)		B: C ratio	
	Demo.	Farmers Practice	Demo.	Farmers Practice	Demo.	Farmers Practice	Demo.	Farmers Practice	Demo.	Farmers Practice
2006-07	15.20	13.50	18800	19300	83600	74250	64800	54950	3.45	2.85
2007-08	14.80	12.90	14500	15450	74000	64500	59500	49050	4.10	3.17
2008-09	15.50	13.00	15600	16500	93000	78000	77400	61500	4.96	3.73
2009-10	14.00	12.50	14500	15500	84000	75000	69500	59500	4.79	3.84
Mean	14.88	12.98	15850	16688	83650	72938	67800	56250	4.33	3.40

additional net returns (Rs. 15,812/ha.) over local variety showing its higher profitability.

From the present study, it was observed that wide yield and management gaps existed between research recommendation, demonstration and farmers practices. However, the yield levels under FLD were found better than the local variety and this could be further improved by adopting recommended management practices.

Conclusion:

It can be concluded from the study that increased yield was due to adoption of variety, Arka Kalyan and conducting frontline demonstration of proven technologies, yield potentials of crop can be increased to greater extent. This will subsequently increase the income as well as the livelihood of the farming community.

REFERENCES

Anonymous (2007). Package of practices for horticultural crops. University of Agricultural Sciences, Dharwad, University of Agricultural Sciences, Bangalore and Department of Horticulture, Bangalore (KARNATAKA) INDIA.

Anonymous (2008). Potential linked credit plan 2009-10 of Dharwad district. Published by National Bank for Agriculture and Rural Development, Karnataka Regional Office, Bangalore. p. 5.

Eswaraprasad,Y., Manohar Rao, M. and Vijayabhindana,B.(1993). Analysis of on farm and level of technology on oilseed and pulse crop in Northern Telengana Zone of Andhra Pradesh. *Indian J. Agric. Econ.*, **48** :351-356.

Hiremath, S.M., Nagaraju, M.V. and Shashidhar, K.K. (2007). Impact of front line demonstrations on onion productivity in farmers field. Souvenir, National Seminar on appropriate extension strategies for management of rural resources, held on December, 18-20, 2007 at University of Agricultural Sciences, Dharwad 100 pp.

Hiremath, S.M. and Nagaraj, M.V.(2010). Evaluation of front line demonstrations trials on onion in Haveri district of Karnataka. *Karnataka J. Agric. Sci.*, **22**(2):1092-1093.

Hiremath, S.M., Halakatti , S.V. and Gouda, D.S.M. (2011). Impact of front line demonstrations on yield and economics of onion. *Adv. J Soc. Sci*, **2**(2):204-206.

Lawande, K.E. (2005). Onion improvement- present status and future thrust. Souvenir, National Symposium on current trends in onion, garlic and seed spices- production, marketing and utilization, held on November, 25-27, 2005 at NRCOG, Rajagurunagar, Pune, pp.45-50.

Pandey, U.B.(2000). Seed production of onion and garlic constraints and strategies. Souvenir, National Symposium on onion and garlic, production and post harvest management : Challenges and strategies, held on November, 19-21, 2000 at NRCOG, Rajagurunagar, Pune, pp.43-48.

Samui, S.K., Maitra, S., Roy, D.K., Mondal, A.K. and Saha, D.(2000). Evaluation on front line demonstration on groundnut (*Arachis hypogaea* L.). *J. Indian Soc. Coastal Agric. Res.*, **18** (2):180-183.

WEBLIOGRAPHY

FAOSTAT (2010).*Available at: http://faostat.fao.org/faostat/collections? subset=agriculture.*