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Impact of front line demonstration on production technology of Garlic cv. GODAVARI in Dhule district of Maharashtra

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ABSTRACT

The Front Line Demonstration on Production Technology of Garlic cv. GODAVARI was conducted for five years (2004-05 to 2008-09) on farmers field in four different villages in all the four talukas of Dhule district in *Kharif* season. It was observed that the average yield performance of 45 demonstrated garlic crop in an area of 5.0 hectares ranged from 82 to 92 q / ha. The average yield of five demonstrations of garlic crop for five years was found to be 86.60 q / ha whereas for local crop, it was found to be 64.60 q / ha. There was 34.20 per cent increase in demonstration yield over local during all the five years. The farmers have incurred average higher returns of Rs. 214200/ ha through these demonstrations. The comparative results of the demonstration highlighted the cost benefit ratio of 5.02 as against the local crop which recorded 4.18. Results of the demonstration had shown that the use of improved variety as a seed, improved cultivation practices, proper post harvest management and plant protection measures resulted in higher production of garlic.

Key words : Garlic, Godavari, Front line demonstration, Yield

INTRODUCTION

Garlic (*Allium sativum* L.) is an important spice or condiment cultivated throughout India. It is chiefly used for flavoring and seasoning vegetables and meat dishes. In its medicinal use, garlic preparations are given in whooping cough and other lung diseases, stomach complaints (ulcers), disorders resulting from child birth, and as a specific remedy for sore eyes and earache. Madhya Pradesh, Gujarat, Orissa and Uttar Pradesh are the leading garlic growing states in India. In Maharashtra, garlic is usually planted in winter and harvested when the hot season sets in. Excessively hot and long days are not conducive to proper bulb formation. For the best development of crop, it should be sown on a well drained loamy soil well supplied with humus. Under heavy soil conditions the bulb produced are deformed which are objectionable to the trade. Also the cutting and pulling out of the bulbs results in badly broken and bruised bulbs which do not keep well in storage. In badly drained soils, the bulbs get discoloured (Yawalkar and Hari Har Ram, 2004).

India is the second largest producer of vegetables that accounts about 16% worlds production. Garlic is the major vegetable grown in India. The area under vegetables was covered by 7164000 ha with production of 109050 MT in 2005-06. India's export vegetables have increased from Rs. 267.69 crores in 2005-06 to Rs. 430 crores in 2006-07. Major importing countries of Indian vegetables are UAE, Pakistan, Sri Lanka, Nepal and Bangladesh.

In the year 2007-08, the area under Garlic in Dhule district was found to be 19.00 ha with the production of 190 metric tons and the productivity recorded was 10 metric tons/ha. Garlic crop requires specialized type of farming techniques and skill. The efforts are underway to increase the productivity of garlic by imparting training and conducting demonstrations. The present study, therefore, was undertaken to ascertain the role of demonstrations in exhibiting the production technology of garlic and thus increasing the yield.

MATERIALS AND METHODS

Krishi Vigyan Kendra, Dhule conducted front line demonstrations on garlic cv. GODAVARI during the year 2004-05, 2005-06, 2006-07, 2007-08 and 2008-09 in *Rabi* season. Totally 45 demonstrations in an area of 5 hectares were conducted on garlic crop on farmer's field in all the four talukas *viz.,* Sakri, Dhule, Shindkheda, Shirpur of Dhule district. The demonstrations were conducted in irrigated conditions and the soils of demonstrations plot ranged from medium to black cotton soils. The demonstrations included important technologies like improved variety, planting, use of manures and fertilizers, irrigations, chemical sprays and post harvest management. The yield data were recorded from demonstrations as well as from local plots.

RESULTS AND DISCUSSION

The data of front line demonstrations presented in Table 1 showed that the yield performance of 45 demonstrated garlic crop in an area of 5.0 hectares ranged from 82 to 92 q / ha. The average yield of five years for

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Table 1 : Yield performance of FLD on Garlic crop
Cultivars: GODAVARI. Season: *Rabi* Irrigation: Irrigated

Sr. No.	Year	Name of the Taluka (Village)	Name of the variety/ component	No. of Demonstrations	Area (ha)	Average yield (q/ha)			Per cent increase in yield
						Demonstration		Control /check	
						Max	Avg.	Avg.	
1.	2004-05	Dhule (Ner) Sakri (Ambapur) Shindkheda (Padavad) Shirpur (Waghadi)	*Godavari* +INM + PHT	10	1	88	84	60	40
2.	2005-06	Dhule (Ner) Sakri (Ambapur) Shindkheda (Padavad) Shirpur (Waghadi)	*Godavari* +INM + PHT	10	1	91	82	62	32.25
3.	2006-07	Dhule (Ner) Sakri (Ambapur) Shindkheda (Padavad) Shirpur (Waghadi)	*Godavari* +INM + PHT	10	1	93	88	64	37.50
4.	2007-08	Dhule (Ner) Sakri (Ambapur) Shindkheda (Padavad) Shirpur (Waghadi)	*Godavari* +INM + PHT	10	1	95	92	69	33.33
5.	2008-09	Dhule (Ner) Sakri (Ambapur) Shindkheda (Padavad) Shirpur (Waghadi)	*Godavari* +INM + PHT	05	1	92	87	68	27.94
	Total / Average			45	5	91.80	86.60	64.60	34.20

Component: Cultivars (GODAVARI) + INM (Integrated Nutrient Management) + PHT (Post harvest technology).

garlic crop was found to be 86.60 q / ha whereas for local crop it was found to be 64.60 q / ha. There was 34.20 per cent average increase in demonstration yield over local during all the five years. The increase in yield in demonstrations over local check was the impact of improved production technology of garlic crop adopted in front line demonstrations. Similar results were also reported by Kalalbandi *et al.* (2006) in chilli crop.

Results of the demonstrations had shown that the use of improved variety of seed, proper cultivation practices, proper post harvest management and plant protection chemicals resulted in higher productivity of garlic. The farmers have incurred average higher returns of Rs. 214200/ha (Table 2) through these demonstrations. The comparative results of the demonstration highlighted the cost benefit ratio of 5.02 as against the local crop which recorded 4.18 (Table 2). Hence, there is a wide scope to increase the areas and production of garlic crop by providing need based training and demonstrations on improved production technology to the farmers.

Table 2 : Economics of front line demonstration of Garlic cv. GODAVARI in *Rabi* season

Sr. No.	Year	Demo		Control		B:C Ratio	
		Total cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Total cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Demo.	Check
1.	2004-05	43180	232000	28100	128000	5.37	4.55
2.	2005-06	42900	187000	29150	105000	4.35	3.60
3.	2006-07	43290	205000	30650	115500	4.74	3.77
4.	2007-08	42250	246000	29900	135000	5.82	4.51
5.	2008-09	41600	201000	31230	140000	4.83	4.48
	Average	42644	214200	29806	124700	5.02	4.18

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