YIELD GAP AND LEVEL OF DEMONSTRATED CROP PRODUCTION TECHNOLOGY

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ABSTRACT

The study was conducted in the Panchmahals district of Gujarat with objective of Study on yield gap and level of demonstrated crop production technology in Panchmahals district. Training to the farmer's and participatory front line demonstrations is an efficient measure for reducing knowledge gap of farmers and enhancing productivity, generating production data and collection feedback for large adoption of the technology. Six villages in demonstrated by KVK and total 94 demonstrations conducted on selected farmers fields. The study concluded that, higher yields under demonstration over farmers practices was found in case of integrated nutrient management, improve varieties and use of zinc sulphate, followed by other demonstration.

Keywords : *yield gap; demonstration; crop production technology*

INTRODUCTION

The objectives of front line demonstration on crops are to be demonstrated the superior productivity potentials of various location/ region specific technologies to practicing farmers and test there implement ability and viability and obtain feedback from the end users and bring about necessary corrections to improve their acceptability and suitability in real farm situations vis-vis prevailing traditional farmers practices. Front line demonstrations are also one of the methodologies to evaluate performance of technology under on farm conditions, technology adoption by the participating farmers and its diffusion to no n participating farmers. Large variation in crop yield exists from place to place depending on the environment, soils type and use of cultivation practices. Training to the farmer's and participatory front line demonstrations is an efficient measure for reducing knowledge gap of farmers and enhancing productivity, generating production data and collection feedback for large adoption of the technology.

METHODOLOGY

The study was carried out in six villages namely Dudhava, Kharshaliya, Bhadaroli, Sureli, Kanod and Bediya of Panchmahals district of Gujarat. These all six villages demonstrated by KVK during two year (2009-10 and 2010-11) and total 94 demonstrations conducted on selected farmers fields. Out of this 62 demonstration on each of technologies like, improved variety of maize paddy, sesamum, gram and castor and 22 demonstration on use of micronutrients (zinc sulphate) in pigeonpea (8) and wheat (14) and 10 demonstration on integrated nutrient management in green gram were raised with recommended package of practices under supervision of KVK, scientists.

RESULTS AND DISCUSSION

The data presented in Table 1 that under demonstration plot the crop yield was found to be substantially more than that under local check during two the years. In the improved variety of maize (GM-4), paddy (GR-11), Sesamum (GT-1). gram (GG-1), and castor (GCH-7). Crop yield demonstration plots were noted to be 22.10, 35.00, 5.68, 16.55, and 21.70 q/ha respectively which were 42.50, 31.33, 45.26, 29.30 and 37.80 percent higher over control. In case of use of micro nutrients (zinc sulphete) in pigeonpea (BDN-2) and wheat and integrated nutrient management in green gram demonstration plots gave an average yield of 8.65, 35.36 and 11.75 q/ha which accounted for 32.06, 28.58 and 37.58 percent increase over local check was regards to the average yield of improved variety in maize (GM-4), paddy (GR-11), Sesamum (GT-1). gram (GG-1), and castor (GCH-7) under demonstration and local check was found to be 42.50, 31.33, 45.26, 29.30 and 37.80 percent. Higher yields under demonstration and local check was found to be 45.26,

42.50, 37.80 and 37.58 improved variety and integrated nutrient management in green gram respectively. Table also evident that, effect of zinc sulphate on pigeonpea and wheat was 32.06 and 28.58 percent higher yield over to local check. Similar yield enhancement in mustard crops in front line demonstration has amply been documented by Singh, Navab and Sharma, F.L. (2004).

Table 1 : Increase of yield, technology and extension index of components demonstration

Sr. No.	Components of Demonstrated	Demonstrated crop	Demonstration technology	No. of Demonstrated	Mean yield q/ha		Increase % over F.P.
					I.P.	F.P.	
1	GM-4	Maize	Improved variety	11	22.10	15.50	42.50
2	GR-11	Paddy	Improved variety	10	35.00	26.65	31.33
3	Zinc sulphate and BDN-2	Pigeonpea	Use of micro nutrients	08	08.65	06.55	32.06
4	Zinc sulphate and GW-496,	Wheat	Use of micro nutrients	14	35.36	27.50	28.58
5	GT-1	Sesamum	Improved variety	16	05.68	03.91	45.26
6	Integrated nutrient management and GM-4	Green Gram	Improved variety with INM	10	11.75	08.54	37.58
7	GG-1	Gram	Improved variety	10	16.55	12.8	29.30
8	GCH-7	Castor	Improved variety	15	21.70	14.00	37.80

Table 2 Adoption level technology intervention of front line demonstrations

Sr. No.	Problem	Technological Intervention	Adoption level				Change in adoption %
			Before		After		
			f	%	f	%	
1	Lack of knowledge and unavailability improver variety	Variety Maize: GM-4	21	22.34	56	59.58	37.24
		Paddy: GR-11	14	14.90	43	47.75	33.56
		Sesamum: GT-1	09	9.58	39	41.49	31.91
		Castor: GCH-7	10	10.64	51	54.26	43.62
2	Lack of knowledge and no use of micro nutrients	Pigeonpea:BDN-2 and Zinc sulphate	07	7.45	46	48.94	41.49
		Wheat: GW-496 and Zinc sulphate	05	5.32	38	40.42	35.10
3.	. Lack of knowledge about PSB& Rhizobium Culture	Gerrn Gram GM-4 and Use of PSB & Rhizobium @ 2.5 kg/ha with FYM	5	5.32	42	44.68	39.36
4.	Lack of knowledge and no use Balance fertilizer	Gram- GG-1 and Recommended Dose fertilizer NPK (20:40:00)	11	11.70	37	39.36	27.66

The Table 2 should that the assessment of adoption of technology interventions showed that the improved variety of maize (GM-4), paddy (GR-11), Sesamum (GT-1) and castor (GCH-7) were maximum popularized and adopted by, 37.24, 33.56, 31.91 and 43.62 percent farmers. Other interventions points i.e. Use of zinc sulphate in Pigeonpea (41.49%) and wheat (35.10%), use of PSB & Rhizobium culture (39.36%) and use of balance dose of NPK fertilizer (27.66%) were also adopted by a large number of farmers in view of their impact on crop yield. The knowledge gap about the technology and the availability was reduced by means of training and the impact was visualized by the farmers in the demonstration. Thus, it become quite effective in achieving higher production and economic returns from the investment and monetary returns can be increase substantially by training of farmers regarding important intervention points like improved variety, use of zinc sulphate in pigeonpea and wheat, use of PSB & Rhizobium culture in green gram, and balance use of NPK in gram through front line demonstrations. The results of the present study are in consonance with the findings of Singh *et. al.* (2004) and Singh *et. al.* (2007) .

CONCLUSION

It can be concluded from the discussion that, higher yields under demonstration over to local check was found in case of integrated nutrient management, improve variety GM-4, GT-1, GR-11, GG-1, GCH-7, use of zinc sulphate, followed by pigeonpea and wheat under demonstrations. The assessment of adoption of technological interventions showed

that the improved variety i.e. maize (GM-4), paddy (GR-11), Sesamum (GT-1) and castor (GCH-7) were maximum popularized and adopted by farmers. As well as the other interventions points i.e. Use of zinc sulphate in pigeonpea and wheat, Use of PSB & Rhizobium culture in green gram and use of balance dose of NPK fertilizer in gram were also adopted by a large number of farmers.

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Received : September 2016 : Accepted : November 2016