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PERFORMANCE OF CHICKPEA (*CICER ARIETINUM*) UNDER FRONT LINE DEMONSTARTION IN SAGAR DISTRICT OF MADHYA PRADESH, INDIA

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Abstract

The study was carried out during *rabi* season in thirteen villages of Sagar district during 2007-08, 2008-09, 2009-10 and 2010-11. Total 76 demonstrations on chick pea were carried out in area of 30.4 ha by the active participation of farmers with the objective to demonstrate the improved technologies. The improved technologies consisting use of modern variety, seed treatment with *rhizobium* and PSB culture, balanced fertilizer application and integrated pest management. FLD recorded higher yield as compared to farmer's local practice.

Key words : Chickpea, demonstration, FLD programme.

Introduction

India is the largest producer, consumer and importer of pulses. Pulses are a good and chief source of protein for a majority of the population in India. Protein malnutrition is prevalent among men, women and children in India. Pulses contribute 11 per cent of the total intake of proteins in India (Reddy, 2010). Among the pulses, chickpea is the premier pulse crop widely consumed in India. It is an important rabi season food legume having extensive geographical distribution and contributing 39 per cent to the total production of pulse in the country (Singh *et al*., 2013). It is a good source of protein, carbohydrate, fat, minerals and vitamins. It is an excellent animal feed. Its straw also had good forage value. The major chickpea producing states are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharasthra, Andhra Pradesh, Gujrat, Haryana, Bihar, West Bengal and Karnatka. The productivity of chickpea in sagar district is far below the potential yield. Abiotic stresses are responsible for declining of yield potential. A front line demonstration (FLDs) is introduced by the Indian Council of Agricultural research (ICAR), New Delhi with inception of technology mission of pulse and oilseed crops during mid eighties. The field demonstration could under the close supervision of Scientists of the KVKs. The basic objectives of FLD are to speedy spread of the newly introduced high yielding varieties of chickpea and acquaint extension functionaries and local farmers with front line varietals and crop management technologies. Keeping the importance of FLDs, the KVK, Sagar conducted demonstrations on chickpea at farmers field in *rabi* season during the year 2007-08, 2008-09, 2009-10 and 2010-11.

Materials and Methods

The present study was carried out by the KVK, Sagar in *rabi* season in the farmers field of 13 villages, namely, Baddaua, Semadhana, Rajakhedi, Badona, Chanatoria, Kanheragond, Salaiyagazi, Agaria, Baroda, Bhapel, Sidgava, Rahatgarh and Richai of Sagar district during the year 2007-08, 2008-09, 2009-10 and 2010-11. Materials for the present study with respect to FLD was improved variety of chickpea (JG 130, Vishal, JAKI 92-18 and JG 16), seed treatment with carboxin (3 gm/kg seed), Rhizobium and PSB culture (10gm/kg seed), fertilizer (DAP 50 kg/ha) and adoption of IPM. The improved technologies included modern varieties, seed treatment and maintenance of optimum plant population etc. The sowing was done during October-November. The spacing in chickpea was 45 × 20 cm with seed rate of 75 kg/ha. The fertilizers were given as per improved practices as basal dose. The crop was harvested at perfect maturity stage with suitable method.

Table 1 : Performance of high yielding variety of chickpea.

Crop season	Village	Variety demonstrated	No. of demonstrations	Area (ha)	Yield (q/ha)		Increase in yield (%)
					Demonstration	Local check	
Rabi 2007-08	Baddaua	JG 130	5	2.00	7.90	6.57	20.2
	Semadhana		4	1.60	7.60	6.13	23.8
	Rajakhedi		3	1.20	8.25	7.01	17.6
				Mean	7.92	6.57	20.5
Rabi 2008-09	Baddaua		6	2.40	10.44	8.80	18.6
	Semadhana		4	1.60	11.84	9.53	24.2
	Badona		1	0.40	11.00	8.25	31.6
	Chanatoria		1	0.40	11.00	8.70	26.4
				Mean	11.07	8.82	25.5
Rabi 2009-10	Kanheragond	JAKI 92-18	5	2.00	10.90	8.45	28.9
	Salaiyagazi		5	2.00	9.75	8.10	20.3
	Agaria		2	0.80	9.20	7.95	15.72
				Mean	9.95	8.16	21.6
Rabi 2010-11	Kanheragond	JG 16	14	5.60	7.28	5.79	25.73
	Salaiyagazi		10	4.00	7.35	6.11	20.29
	Baroda		10	4.00	7.72	6.25	23.52
	Bhapel		1	0.40	8.00	6.58	21.58
	Sidgava		1	0.40	8.25	7.09	16.36
	Badona		1	0.40	7.75	6.63	16.89
	Rahatgarh		1	0.40	7.75	6.49	19.41
	Baddaua		1	0.40	8.00	6.15	30.08
	Richai		1	0.40	7.50	6.40	17.18
				Mean	7.73	6.38	21.22

Results and Discussion

The data in table 1 revealed that during *rabi* season of 2007-08, 12 demonstrations of chickpea covering 4.80 ha of area in 3 villages resulted in 7.92 and 6.57 q/ha yield in test variety JG 130 and local check JG 74, respectively. This accounted for 20.5 per cent average increase in the yield. In the year of 2008-09, 12 demonstrations covering 4.80 ha area in 4 villages resulted in 11.07 and 8.82 q/ha yield in test variety Vishal and local check JG 74, respectively. This accounted for 25.5 per cent average increase in the yield. 12 demonstrations during *rabi* 2009-10 season, covering 4.80 ha area in 3 villages resulted in 9.95 and 8.16 q/ha yield test variety JAKI 92-18 and local check JG 315, respectively. This accounted for 21.3 per cent average increase in the yield. During the year of 2010-11, 40 demonstrations of chickpea covering 16 ha of land in 9 villages resulted in 7.73 and 6.38 q/ha yield test variety JG 16 and local check JG 315, respectively. This accounted for 21.2 per cent average increase in the yield.

Conclusion

It is concluded that front line demonstration was effective in changing attitude, skill and knowledge of latest production technology *viz*., HYV, seed treatment with fungicide and biofertilizer, balance dose of fertilizer, timely sowing and insect pest and disease management of chickpea. This also improved the relationshiop between farmers and scientist and built confidence between them. The selected FLD farmers acted also as a source of information for popularizing recent technology of chickpea cultivation and pure seeds for wider dissemination of HYV of chickpea for other farmers.

References

Reddy, A. A. (2010). Regional disparities in food habits and nutritional intake in Andhra Pradesh, India. *Regional and Sectoral Economic Studies*, Vol. **10**-2.

Singh, A. K. Manibhusan, B. P. Bhatt, K. M. Singh and A. Upadhyaya (2013). An analysis of oilseeds and pulses scenario in Eastern India during 2050-51. *Journal of Agril. Sci*., **5(1)** : 241-249.