



IMPACT OF FRONTLINE DEMONSTRATION IN TRANSFER OF PEARLMILLET PRODUCTION TECHNOLOGY

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Abstract- Pearl Millet contributes significantly to food and nutritional security of the rural and urban poor people in the arid and semi arid areas of the India and its valued equally for both its grain and fodder. Although, its demand in India is decreasing due to commercialization of alternative food, feed and industrial product. Considerable scope of enhancement in productivity leading to higher production exists, especially in Saurashtra region, farmer's meeting and field visits followed by persuasion for provision of improved variety, balanced and adequate nutrition and timely integrated pest management. To demonstrate this, 140 Frontline Demonstrations were organized by Millet Research Station, JAU, Jamnagar between 2009-10 and 2013-14 at different districts of Saurashtra region of Gujarat State under real farm situations. Prevailing farm practices were treated as control for comparison with recommended package i.e. improved variety, GHB-558, thinning 15 days after sowing, balanced use of nitrogenous fertilizers and two foliar spray of profenophos 0.05 % at 20 and 40 days after germination to control the shoot fly and stem borer pests infesting pearl millet. The cumulative effect of technological intervention over five years, revealed average yield of 2008 kg/ha, 14.5 % higher over the local checks. The economics of and cost benefit ratio of both control and demonstrated plot was worked out. On an average net profit was obtained Rs 3200/- due to adoption of improved package of practices. Cost benefit ratio was 2.3 – 3.0 under demonstration, while it was 2.0-2.5 under control plots. By conducting the Frontline Demonstrations of proven technologies, yield potential and net income from pearl Millet cultivation can be enhanced to a great extent with increase in the income level of the farming community.

Keywords- Pearl Millet, Frontline Demonstration, GHB-558.

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Introduction

Available agricultural technology does not serve its purpose till it reaches and adopted by its ultimate users, the farmers. Technology transfer refers to the spread of new ideas from originating sources to ultimate users. Pearl Millet contributes significantly to food and nutritional security of the rural and urban poor people in the arid and semi arid areas of the India and its valued equally for both its grain and fodder. There is ample scope for further improvement of production and productivity of pearl millet for raising the income level of the farming community of the Gujarat State. Yield loss under real farming condition can be attributed to several biotic and abiotic factors, important among them are use of farmer's hybrid and imbalanced use of nitrogenous fertilizers. There is possibility to enhance pearl millet productivity by adoption of improved production technology of pearl millet cultivation. With an object to combat the cause of yield erosion and lower economic returns, dissemination of recommended technology through front line demonstration was successfully attempted.

Materials and Methods

Main Pearl Millet Research Station, Jamnagar has 140 conducted front line demonstration under real farming situations between 2009 and 2013 at different districts of Gujarat State. The area under each demonstration was 0.50 ha. In all 140 demonstrations were conducted on various locations under the direct supervision of the scientists. To manage assessed problem, improved cultivar, thinning at 15 days after germination, balanced use of nitrogenous fertilizers and plant protection measures were followed as intervention during the course of front line demonstration scheme. Well before the conduct of demonstrations, training to

the farmers of respective villages was imparted with respect to proven technological interventions. All other steps like site and farmer selection, lay out of demonstration, farmer's participation were followed as suggested by Chaudhary (1999) [1]. Visits of farmers and extension functionaries were organized at demonstration plots to disseminate the message at large. Yield data was collected from control (Farmer's practices) and demonstration plots and cost of cultivation, net income and cost benefit ratio were computed and analyzed.

Results and Discussion

The yield performances are presented in [Table-1]. The data reveal that under demonstration plot, the performance of pearl millet grain yield was found to be substantially higher than the under local practices during all the years (2009-10 to 2013-14). The grain yield of pearl millet under demonstration recorded was 2201, 2033, 1638, 1808 and 2358 kg/ha during 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14, respectively. The yield enhancement due to technological intervention was to the tune of 13.0, 13.0, 11.6, 14.3 20.8 per cent over farmer's practices. The cumulative effect of technological intervention over five years, revealed an average yield of 2008 kg/ha, which was 14.5 % higher over farmer's practices. The year to year fluctuations in yield and cost of cultivation can be explained on the basis of socio-economic and prevailing condition of the particular village. It is evident from [Table-1] that there was a wide gap of 26.10 %. It indicates that the pearl millet growers with low yield were identified by low knowledge of scientific technique of pearl millet cultivation. It is point of concern for research and extension worker to disseminate improved pearl millet production

technology for raising the production of pearl millet.

The data clearly revealed that, the gross returned from demonstrated practices were substantially higher than control plot, i.e. farmer's practices during all the years of demonstration. Cost benefit ratio was 2.3 – 3.0 under demonstration, while it was 2.0-2.5 under control plots. On an average net profit was obtained Rs 3200/- due to adoption of improved package of practices, i.e. improved cultivar, timely

thinning, balanced use of nitrogenous fertilizers and plant protection measures. Hence, there is a wide scope to increase the production of pearl millet crop by providing need based training and demonstration on improved production technology to the farmers. Similarly, Zala *et al.* (2013) [2] studied the impact assessment of FLD on production technology of finger millet Kaparada Block of district of Valsad.

Table-1 Yield performance of FLD on pearl millet crop

Year	No of Demonstration	Average yield (kg/ha)		% increase over local practices	State Average Yield (kg/ha)	Yield gap %
		Demo.	Local			
2009-10	30	2201	1914	13.0	1221	80.26
2010-11	50	2033	1769	13.0	1720	18.19
2011-12	30	1638	1448	11.6	1561	04.93
2012-13	20	1808	1549	14.3	1793	00.83
2013-14	10	2358	1728	20.8	1868	26.23
Average	140	2008	1710	14.5	1633	26.10

Table-2 Economics of FLD of pearl millet

Year	Gross Expenditure		Gross return		Net return		CB Ratio	
	Demo.	Local	Demo.	Local	Demo.	Local	Demo.	Local
2009-10	9500	9100	26417	22968	16912	13868	2.78	2.52
2010-11	9750	9300	24396	21228	14646	11928	2.50	2.28
2011-12	8550	8350	19656	17376	11106	9026	2.30	2.08
2012-13	8500	8200	21696	18558	13196	10388	2.55	2.27
2013-14	9280	8750	28296	22416	19016	13666	3.05	2.56
Average	9116	8740	24091	20515	14975	11775	2.30	2.30

Conclusion

From the above discussion, it can be concluded that front line demonstration have shown the use of better input like improved cultivar, timely thinning, balanced use of fertilizer and proper management of pest and disease may result in higher productivity of pearl millet. In demonstration plot improved production technology of pearl millet performs better than control plot. It improves productivity by 14.5 %. The productivity gain under FLD over farmer's practices created awareness and motivated the other farmers to adopt improved production technology of the pearl millet.

Conflict of Interest: None declared

References

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