

**RESEARCH NOTE :**

## Economic impact of front line demonstrations on finger millet yields

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**SUMMARY :** A study was conducted for two years during 2014-15 and 2015-16 involving 30 and 15 farmers at Tumkur and Ramanagara districts, respectively. The improved finger millet variety KMR-301 and KMR-204 were used to demonstrate the improved production technology on finger millet in the farmer's field. The data revealed that during 2014 by the introduction of new technology the grain yield was increased by 36 per cent over farmers practice and during 2015, at Ramanagara district the yield improvement was to the tune of 16 per cent.

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In Karnataka, the major finger millet growing areas are Bangalore rural, Kolar, Tumkur, Ramanagara, Mandya, Mysore, Chamarajanagara and Chithradurga. Finger millet is a staple food crop of Karnataka. It is not only a good for humans but also serves as a best feed for animals. Being rich source of Ca and Fe it contributes to nutritional security. Usually, finger millet is grown in marginal and less fertile soils. It is mostly grown as rainfed crop with general assumption that the crop is low input requiring and not much emphasis is being given to fertilizer application resulting in lower yields. There is a possibility to enhance the productivity levels by motivating the farmers to adopt improved high yielding, disease resistant varieties coupled with

production technologies right from selection of variety, method of sowing, seed treatment and maintenance of plant population, plant protection and harvesting. Thus, the present study was undertaken to quantify the impact of demonstrations in increasing the yields by adopting and exhibiting the results to a large number of farmers.

All India Coordinated Research Project on small Millets, V.C. Farm, Mandya conducted the front line demonstrations on finger millet for a period of two years in Tumkur district (during 2014-15) about 30 demonstrations in an area of 15 ha and in Ramanagara district (during 2015-16) about 15 demonstrations were conducted in an area of 17 ha.

The demonstrations were conducted on a wide range of soils under rainfed conditions. The beneficiaries were provided with critical inputs such as seeds of improved varieties (KMR-301 and KMR-204) and fertilizers to supply major nutrients such as nitrogen, phosphorus and potash to the crop. The interventions were made for different components of production technology as per the package of practices *viz.*, use of optimum seed rate (12.5kg/ha), maintaining the spacing (22.5 cm between rows), fertilizer application (62.5:37.5:25 kg NPK/ha), weed management by inter cultivation and taking up plant protection measures for disease management. A local check plot was maintained as farmers practice to compare with the improved practice. Sowings were taken up during *Kharif* season and regularly the demonstration plots were monitored till harvest. Finally, the demonstration plots and farmers plot yield were recorded by harvesting the crop in an area of 10 m<sup>2</sup>.

The results of the demonstrations are presented in Table 1. The data revealed that there was a substantial increase in yield under demonstration plots over farmers practice with local varieties. The grain yield ranged from 22.50 to 21.70 q/ha in local practice and 35.40 to 25.90 q/ha in demonstrations plots. However, average over two years (2014-15 and 2015-16) revealed 26 per cent incremental yield in demonstrations plots over farmers practice. The increased yield levels could be due to the adoption of improved varieties along with production technologies under demonstration plots whereas, lower yields in farmers practice were due to non-adoption of improved management practices. Halakatti *et al.* (2011) reported that by adoption of improved varieties of small millet there was a substantial increase in yield levels in the FLD'S.

The economic analysis of the data (Table 2) revealed that, increment in net returns due to adoption of improved technology. The farmers under demonstrations plots earned a net returns of Rs. 31852/ha while in farmers practice it was only Rs. 21467/ha. Higher B: C of 2.25 was recorded in demonstrations plots against 1.80 in farmers practice. It is evident from the present study that there is a vast scope for intervention by the extension functionaries to enhance the yield levels by adopting the new production technology through demonstrations. Zala *et al.* (2013), reported similar results of front line demonstrations at Valsad district of Gujarat in transfer of technology of finger millet and in the impact assessment study of FLD on production technology of niger in Dindori district of M.P. by Ambulkar *et al.* (2011) similar results were reported.

#### Farmer's feedback and impact of the study :

The farmers of the region experienced the results of the demonstration and opined that by adopting improved production packages the yield increment can be achieved. They also expressed the importance of FLD's in motivating the farmers to adopt the technology to reduce the yield gap between farmers practice and demonstrations.

From the above study, it can be highlighted that front line demonstrations are helpful in reducing the yield gap and enhancing the productivity of finger millet. Demonstrations on all aspects of crop production such as selection of improved variety, method of establishment, maintenance of optimum plant population and plant protection measures resulted in higher yield of finger millet over farmers practice. It is also evident from the study, that front line

**Table 1 : Impact of demonstrations on yield of finger millet**

Year	Place	No. of demon.	Average yield (q/ha)		% increase over FP
			IP	FP	
2014-15	Tumkur	30	35.40	22.50	36%
2015-16	Ramanagara	15	25.90	21.70	16%
Total/ Mean		45	30.65	22.1	26%

Note: IP: Improved practice FP: Farmers practice

**Table 2 : Economics of front line demonstrations in finger millet**

Year	Average cost of cultivation (Rs./ha)		Average gross returns (Rs./ha)		Net returns (Rs./ha)		B:C	
	IP	FP	IP	FP	IP	FP	IP	FP
2014-15	14046	11615	53100	33750	39054	22135	2.78	1.90
2015-16	14200	11750	38850	32550	24650	20800	1.73	1.70
Mean	14123	11682	45975	33150	31852	21467	2.25	1.80

demonstrations are the effective means of creating awareness among the farmers about the improved production technologies and also motivate other farmers to go for adoption of technology for getting better production and profitability.

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