

Impact of Front Line Demonstration Technology on Yield and Profitability of Pearl Millet on Farmer's Field

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Abstract

The study Impact of Front Line Demonstration Technology on Yield and Profitability of Pearl Millet on Farmers Field in Agra district conducted during 2015-16 and 2016-17 in kharif season was carried out at Krishi Vigyan Kendra Bichpuri, Agra (U.P). This was consisting technology of Front Line Demonstration under Balanced dose of fertilizer (80 kg Nitrogen, 40 kg Phosphorus, 40 kg Potash, 20kg Sulphur and 25 kg Zinc). The results showed that Demonstration performed the best yield of pearl millet compared to farmer practices. The benefit cost ratio (B:C ratio) of first year Front Line Demonstration and farmer practices were 1:1.19 and 1:0.87 and second year were 1:1.91 and 1: 1.25, respectively. Front Line Demonstration technology was more Profitability compared to farmer practices.

Key words: Pearl Millet, FLD, Yield

Introduction

Pearl Millet is one of the most important among the millets. It provides staple food for the poor and short period, dry tracts, rain fed of the cultivated in country and relatively by the economically poor farmers using either no improved production technology. Pearl Millet is the most drought and heat tolerant among cereals (Anil kumar et al., 2010).

Important crop management can play effective dual role both in increasing the productivity and enhancing production stability. Major emphasis in the adoption of new technology was high yielding varieties, assured irrigation, balanced fertilizer management and use of chemical (Kikar et al., 2005).

Organization of front line demonstration is most effective tool for transfer of Cost effective technologies among the farmers (Srinivas et al., 2015 and Jeendar et al., 2006). Therefore, front line demonstration were conducted during kharif seasons of the year 2015-16 and year 2016-17 on selected farmer field of the operation area of Krishi Vigyan Kendra Bichpuri, Agra with the objective of exhibiting the performance of balanced fertilizer application of Pearl Millet crop.

Materials and Methods

The FLD were conducted by Krishi Vigyan Kendra, R. B. S. College Bichpuri, Agra as per the guide line of FLD to Krishi Vigyan Kendra. The FLD

was planned year of 2015-16 and 2016-17 in the kharif season for the pre selective Agra district village adopted Nagla hera Singh in year 2015-16 and Nagala Mansh in year 2016-17. These village soils are medium phosphorus, low organic carbon and nitrogen.

The Technology used for the FLD were recommended dose fertilizer 80 kg Nitrogen 40 kg potash 40 kg Phosphorus 20 kg sulphur and 25 kg Zinc per hectare. Farmer practices use of Nitrogen. farmers Provide by Krishi Vigyan Kendra Dai ammonium phosphate, Murat of potash, Sulphur and Zinc of pearl millet recommended for the area and non monetary in put like timely sowing, seed rate, plant spacing, weeding, thinning, harvesting, threshing, chemical use, etc practices were taken cane through farmers training, field visit, etc and production data of pearl millet were observation separate farmer after threshing. The treatments of traditional farming and recommended dose of fertilizers are as follow:

T-1(farmer practices) : 60 kg per hectare nitrogen, no use of phosphorus and potash

T-2(recommended dose under FLD): 80kg/ha nitrogen, 40kg/ha Phosphorus and 40 kg/ha potash

The fertilizer applied in split dose half nitrogen, full phosphorus, full potash used basal placed at the time of sowing and rest dose of nitrogen one fourth applied about 30 days and 60 days after sowing. The BCR formula was calculated in given below:

Gross return

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$$BCR = \frac{\text{Gross cost}}{\text{Gross cost}}$$

Results and Discussion

(i) Grain Yield

The data that is proved from the average yield in Table 1, reveal that application of demonstration (FLD) Balanced fertilizer technology result in substantially higher pearl millet yield that compare to farming practices during the year 2015-16 and 2016-17. The average yield of pearl millet grain first year 2015-16 is 25.80 quintal per ha and average yield of pearl millet grain second year 2016-17 is 34.36 q/ha under demonstrated technology. The average yield of pearl millet is in first year 16.00 q/ha and in second year 24.00 q/ha farmer's practices.

Table 1: Grain yield pearl millet (q/ha) on farmers fields

Treatments	No. of Farmers	Average grain yield (q/ha)
		2015-16
T-1(N-60,P-0,K-0 kg/ha) (farmer practices)	8	16.00
T-2(N-80, P-40, K-40kg/ha, 20kg S/ha,25kg Zn/ha) (recommended dose under FLD)	8	25.80
		2016-17
T-1(N-60,P-0,K-0 kg/ha) (farmer practices)	20	24.0
T-2(N-80, P-40, K-40kg/ha, 20kg S/ha,25kg Zn/ha) (recommended dose under FLD)	20	34.36

The higher yield production of pearl millet under Demonstration in comparison to farmer's local practices could be ascribed mainly to the use of balanced fertilizer dose and hybrid varieties of pearl millet. Demonstration technology yield of pearl millet 9.80 q/ha first year and next year yield of pearl millet 10.36 q/ha is more in the comparison to farmers pearl millet yield.

(ii) Economics

Economics indication i.e. gross cost of cultivation gross returns, net returns and Benefit Cost ratio of front line demonstration are presented in table 2 and table 3 Clearly shows that year 2015-16 and 2016-17 gross cost of cultivation for pearl millet under front line demonstration practices Rs 24800 and Rs 21291 compare to farmer practices cost of cultivation Rs 21040 and Rs 17520. The data clearly revealed that demonstrated technology provided substantially

higher return than local check (farmer practices) i.e. during 2015-16 and 2016-17. Front line demonstration technology show clear of income Rs 29670 and Rs 48104 compare to Rs 18400 and Rs 33600 farmer practices respectively both the year. Show clear Front Line Demonstration technologies were more Profitability compared to farmer practices.

Table 2: Economics and B:C ratio of various treatments (2015-16)

Treatments	Cost of cultivation(Rs/ha)	Income (Rs/ha)	Profit (Rs/ha)	B:C Ratio
T-1	21040	18400	-2640	1:0.87
T-2	24800	29670	4870	1:1.19

Bajra @ Rs 1150.00/quintal

Table 3: Economics and B:C ratio of various treatments (2016-17)

Treatments	Cost of cultivation(Rs/ha)	Income (Rs/ha)	Profit (Rs/ha)	B:C Ratio
T-1	17520	33600	1680	1:1.25
T-2	21291	48104	26813	1:1.91

Bajra @ Rs 1400.00/quintal

Economics analysis of the yield performance revealed the B:C ratio of demonstration higher were 1:1.19 and 1: 1.91 compare to 1:0.87 and 1:1.25 farmers practices (Traditional) of year 2015-16 and 2016 -17, respectively .

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