

Study on impact of technology transfer under front line demonstration of sunflower in Haveri district of Karnataka

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ABSTRACT

Among different oilseed crops grown in India sunflower occupies an important position next only to groundnut. In Karnataka Haveri district is one of the important sunflower growing areas. Many front line demonstrations were organized in the district to popularize the improved production technologies among the farming community. Hence, this study was conducted to identify the adoption gaps, economics and constraints encountered by the farmers in Haveri district of Karnataka. The study brought to surface that there were many gaps in adoption of recommended practices and the demonstration plot has recorded higher percentage of B: C ratio.

INTRODUCTION

In India oilseeds have been contributing significantly to the agricultural economy. The demand for edible oil is more than its supply and the country is facing shortage of edible oil, as a result of which India has to import the edible oils at the expense of huge foreign exchange. India is third largest producer of oilseeds in the world but the average yield is very low.

The important oilseed crops grown by adopting new technology in India are groundnut, sunflower, sesamum, soybean, safflower, mustard, linseed, castor etc. Among these oilseed crops, sunflower occupies an important position next only to groundnut. It is called as the champion of oilseed crops. Further, sunflower is an important oilseed crop in the world and ranks third, next only to soybean and cotton with an area of 2.02 million tonnes in the world.

Compared to other oilseed crops, sunflower has occupied a prime position in Karnataka in terms of its highest area and production followed by Maharashtra and Andhra Pradesh.

In Karnataka, Haveri district is one of the important district in sunflower cultivation. The front line demonstrations on sunflower were implemented in Haveri district by the Krishi

Vigyan Kendra, Hanumanamatti.

If any programme or system has to be implemented successfully, there is need to assess the impact periodically so that any modification, if any needed for improvement of the system can be taken into consideration. Keeping in view, the importance of sunflower cultivation in Karnataka, the present investigation was undertaken with an objective to evaluate the performance and economics of sunflower (KBSH-1) demonstration laid out under Front Line Demonstration Project of Krishi Vigyan Kendra, Hanumanamatti in Haveri district of Karnataka with the following specific objectives to identify the gaps in the adoption of cultivation practices of sunflower among the farmers, to analyse economics of front line demonstration in relation to farmers methods and to find out the constraints encountered by the farmers in adopting the recommended package of practices.

METHODOLOGY

In the light of the objective set forth for the present study, the required information was collected from 100 farmers comprising 40 demonstration and 60 non-demonstration farmers. The structured interview schedule was adopted to collect the information by personally interviewing the selected farmers

Key words :

Technology transfer, Front line demonstration, Adoption, Economics and constraints

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of first line demonstration programme.

The following formula were used in the study.

non-practicing of the ridges and farrow method of cultivation, non availability of water at regular interval

a. Gap in adoption percentage	=	$\frac{\text{No. of farmers who are not adopting the recommended cultivation practices}}{\text{Total No. of farmers interviewed}} \times 100$
b. Percentage increase over check	=	$\frac{\text{Demonstration yield} - \text{local check yield}}{\text{Local check yield}} \times 100$
c. Net Benefit cost ratio	=	$\frac{\text{Gross income}}{\text{Cost of cultivation}} - 1$
d. Percentage increase in benefit cost ratio of Demonstration plot over local check	=	$\frac{\text{Net B:C ratio of Demonstration plot} - \text{Net B:C ratio of local check}}{\text{Net B:C ratio of local check}} \times 100$

RESULTS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under following heads:

Adoption gaps:

The analysis of gap in adoption among farmers is presented in Table 1. The table reveals that highest percentage of farmers have not followed proper seed treatment due to lack of knowledge and non-convince of the results. Next highest gap was reported in proper dose of chemical fertilizer application due to high cost of the fertilizer and scanty rainfall.

Preparatory cultivation and method of sowing were not followed by 70 per cent of farmers because of lack of knowledge. Sixty per cent of farmers have not adopted proper seed rate and plant population because of lack of knowledge and non-convince of the results. Recommended dose of FYM was not applied by 60 per cent of farmers because of non-availability of quality FYM and high cost. The application of proper irrigation methods was again not followed by 60 per cent of farmers due to

Table 1 : Adoption gap percentage of sunflower recommended practices by the farmers of Haveri district (n=100)

Recommended practices	Adoption gap (%)
1. Seed treatment	95
2. Chemical fertilizer application	80
3. Preparatory cultivation	70
4. Method of sowing	70
5. Seed rate and plant population	60
6. Use of FYM	60
7. Irrigation	60
8. Plant protection measures	20
9. Use of improved varieties	15
10. Inter cultivation	10

and at required time. The results are in agreement with the result of Bhatia (1991).

Productivity levels of front line demonstrations:

The data on the productivity levels of FLD is present in Table 2. The table brings to the notice that the percentage increase in yield over local check was recorded the highest during the year 2005-06 which may be because of congenial farming conditions during that year.

Table 2 : Percentage increase in sunflower front line demonstration plot yield over local check

Sr. No	Year	Area (ha)	Average yield (q/ha)		% Increase over local check
			Demonstration plot	Local check	
1.	2003-04	05	12.47	09.50	31.26
2.	2004-05	05	07.90	07.25	09.00
3.	2005-06	05	05.25	04.75	16.50

Comparative economic analysis of FLD:

The results on comparative economic analysis of FLD is presented in Table 3. It revealed that the demonstration yields of the year 2005-06 has given the highest per cent increase in B:C ration (70.58 per cent) followed by the year 2003-04 and 2004-05. The probable reasons for this might be the environmental factors must have favoured crop growth during that year and also because of the less pest and disease incidence during the year.

Constraints faced by farmers in adoption of sunflower cultivation practices:

Farmers have faced many problems which hindered them in adopting the recommended practices of sunflower cultivation. The results are presented in Table 4. The constraints are classified as relating to improved varieties,

Table 3: Percentage increase in B: C ratio of demonstration and non-demonstration farmers

Sr. No	Year	Ave. seed yield (q/ha)		Gross income (Rs/ha)		Cost of cultivation (Rs/ha)		Benefit cost ratio		% increase in benefit cost ratio
		D	L	D	L	D	L	D	L	
1.	03-04	12.97	9.50	19640	14962	6625	5875	1.90	1.50	26.66
2.	04-05	07.90	7.25	13825	12687	8000	7750	0.72	0.63	14.28
3.	05-06	05.25	4.75	10712	8787	8300	7500	0.29	0.17	70.58

seed treatment, method of sowing, plant population and use of fertilizer. The results are similar to the findings of Chandrabanu *et al.* (1991).

In case of use of improved varieties, high seed cost was the most important problem encountered by the farmers followed by lack of awareness. In case of seed treatment, not awareness of the advantages was the major problem followed by lack of knowledge. As regards method of sowing again not aware of advantage was expressed majority of farmers followed by non-availability of suitable seed drills.

High seed cost was the major problem in case of seed rate and plant population. With regards to use of fertilizer, high cost and non-availability of credit were the

important problems faced by the farmers. Lack of conviction about the relative advantages and lack of awareness were the major problems. Hence, more and more extensive extension efforts may be initiated in the area.

The study brings forth that there are many gaps in adoption of recommended sunflower technologies by the farmers and also the farmers expressed many problems in adopting them in their fields. Hence, more and more extension activities are to be organized in the region to create awareness and to convince the farmers about importance of the practices.

The demonstration plot has recorded higher percentage increase in B:C ratio in all the years. Hence, extension agency has succeeded to a great extent in conducting the demonstration. In future more such programmes may be organized.

Table 4 : Constraints faced by farmers in adoption of sunflower production technologies (n=100)

Constraints	Percentage
1. Use of improved varieties	
High cost of seed	90
Lack of awareness	84
Lack of timely availability	48
No guarantee of getting more yield	25
Variety susceptibility to pest and diseases	15
2. Seed treatment	
Not aware of the advantages	78
Lack of knowledge	60
Lack of skill	41
Negligence	30
3. Method of sowing	
Not aware of the advantages	90
Non-availability of suitable seed drill	60
Seed coming in contact with fertilizer	40
4. Seed rate and plant population	
High cost of seed	90
Not aware of the advantages of maintaining plant population	49
Restricted seed supply	29
5. Use of fertilizers	
High cost	85
Non- availability of credit	71
Lack of knowledge of recommended doses	50
Scanty rainfall/ water source	37

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