

## Impact of Frontline Demonstration on Castor Growers

B.S. Patel<sup>1</sup>, H. B. Patel<sup>2</sup> and U. M. Patel<sup>3</sup>

1 Training Associate, DOEE, AAU, Anand

2 Associate Extension Educationist DOEE, AAU, Anand

3 Programme Co-ordinator, KVK, AAU, Dahod

Email : bsp@aaui.in

### ABSTRACT

*Castor is an important industrial non-edible oilseed crop. Castor seed contains 45.00-47.00 per cent non-edible oil, which is used as domestic, medicinal and industrial purpose. The Gujarat state ranks first position in the country with respect to area, production and productivity among all major castor growing states in the country. Frontline Demonstration was launched by ICAR in 1991 with primary objective to demonstrate newly released crop production technologies and its management practices on farmer's field under real farming situation. The present investigation was carried out in Petlad, Khambhat and Sojitra talukas of Anand district. Sixty demonstration beneficiaries' farmers were selected randomly from purposely selected 12 villages where more than 5 Frontline demonstrations on castor crops were conducted. To know the impact of Frontline demonstrations, the same numbers of non-beneficiaries farmers were selected from the same villages, who were not beneficiaries under Frontline demonstrations. Thus, altogether 120 respondents from 12 villages were selected for the study. The findings infer that great majority of demonstration beneficiary of castor growers had medium to high and non-beneficiary of castor growers had low to medium level of knowledge and adoption about recommended castor production technology. The mean score of knowledge and adoption of demonstration beneficiary was seen to be higher than that of the non-beneficiary castor growers and difference was found to be statistically significant at one per cent level. It means that the demonstration beneficiary castor growers had better knowledge and adoption than demonstration non-beneficiary castor growers in recommended castor production technology. From the above findings an inference could be drawn that FLD conducted by KVK, Devataj had played an important role in increasing the knowledge and rate of adoption of the recommended crop production technology of castor crop. The results also depict that demonstration beneficiary castor growers had significantly higher average yield of castor crop than demonstration non-beneficiary castor growers.*

**Keywords:** FLD, Castor growers

### INTRODUCTION

Castor is an important industrial non-edible oilseed crop. Castor seed contains 45.00-47.00 per cent non-edible oil, which is used as domestic, medicinal and industrial purpose. India ranks first in respect of area (7.10 lakh hectares), production (8.50 lakh tones) and productivity (1197.00 kg/ha) in the world. It contributes about 28.00 per cent of the world's acreage and 36.00 per cent of total output. In Gujarat, it is grown is about 4.50 hectares with

an annual production about 6.38 lakh tones of castor seeds. The most important castor growing districts in Gujarat are Mehsana, Sabarkantha, Banaskantha, Kachchh, Anand, Rajkot, Jamnagar and Gandhinagar.

The main objective of Krishi Vigyan Kendra is to promptly demonstrate the latest agricultural technology to the farmers as well as extension workers of State Department of Agriculture/Horticulture/Animal Science/ Non-Government Organization with a view to reduce the

time lag between the technology generation and its adoption. The Krishi Vigyan Kendra, Devataj established in 21<sup>st</sup> March, 1985.

Frontline Demonstration was launched by ICAR in 1991 with primary objective to demonstrate newly released crop production technologies and its management practices on farmer's field under real farming situation. Frontline Demonstration (FLD) is the concept of field demonstration involved by the ICAR with the inception of the Technology Mission on Oilseed crops during mid-eighties. The field demonstration conducted under the close supervision of the scientist of the National Agriculture Research System is known as *Frontline demonstration*, because the technologies are demonstrated for the first time by the scientist themselves before being fed into the main extension system of the State Department of the Agriculture. The explicit importance and crucial contribution to the FLD to agricultural development certainly call for a scientific study to assess the influence of

the FLD on knowledge and adoption level of farmers for whom the learning situation were designed.

### METHODOLOGY

The study was carried out in Petlad, Khambhat and Sojitra talukas of Anand district. Sixty demonstration beneficiaries' farmers were selected randomly from purposely selected 12 villages where more than 5 Frontline demonstrations on castor crops were conducted. To know the impact of Frontline demonstrations, the same numbers of non-beneficiaries farmers were selected from the same villages, who were not beneficiaries under Frontline demonstrations. Thus, altogether 120 respondents from 12 villages were selected for the study.

### RESULTS AND DISCUSSION

Knowledge Level of Demonstration Beneficiaries and Non-Beneficiaries Castor Growers about Recommended Castor Production Technology

**Table:1 Distribution of Demonstration Beneficiaries and Non-Beneficiaries Castor Growers according to their knowledge regarding recommended castor production technology** n=120

Sr. No.	Level of Knowledge	Category of castor growers			
		Beneficiaries (n=60)		Non-beneficiaries (n=60)	
		Number	Per cent	Number	Per cent
1	Low (Below 17.41 score)	10	16.67	16	26.67
2	Medium (Between 17.41 to 22.34 score)	35	58.33	32	53.33
3	High (Above 22.34 score)	15	25.00	12	20.00
	Mean	21.7000		19.0833	
	S.D.	2.0527		3.6790	
	"t" Value	4.547**			

\*\*= Significant at 0.01 level

The analysis of data showed that great majority of demonstration beneficiary (83.33 per cent) of castor growers had medium to high and non-beneficiary (80.00 per cent) of castor growers had low to medium level of knowledge about recommended castor production technology.

It evident from Table 1, 't' value (4.547) was found to be significant at 0.01 level of significance, indicating thereby that demonstration castor growers had significantly higher knowledge regarding improved castor production technology than non-beneficiary castor growers. From the above finding an inference can be drawn that FLD had

influenced in increasing the knowledge the demonstration beneficiary castor growers regarding castor production technology.

### Adoption Level of Demonstration Beneficiaries and Non-Beneficiaries Castor Growers in Relation to Castor Production Technology

The analysis of data showed that great majority of demonstration non-beneficiary (88.33 per cent) of castor growers had low to medium and beneficiary (76.67 per cent) of castor growers had medium to high level of adoption about

recommended castor production technology.

**Table 2: Distribution of respondents according to their adoption regarding castor production technology** n-120

Sr. No.	Level of adoption	Category of castor growers			
		Beneficiaries (n=60)		Non- beneficiaries (n=60)	
		Number	Per cent	Number	Per cent
1	Low (Below 8.72 score)	14	23.33	21	35.00
2	Medium (Between 8.72 to 11.33 score)	36	60.00	32	53.33
3	High (Above 11.33 score)	10	16.67	07	11.67
	Mean	10.26		8.78	
	S.D.	1.21		1.35	
	“t” Value	2.100*			

\*=Significant at 0.05 level

The ‘t’ value shown in Table 2 reveals that there was significant difference in the adoption about recommended castor production technology between the demonstration beneficiary and non-beneficiary castor growers. It means that the demonstration beneficiary castor growers had better adoption than demonstration non-beneficiary castor growers in recommended castor production technology. From the above findings an inference could be drawn that FLD conducted by KVK, Devataj had played an important role in increasing the rate of adoption of the recommended crop production technology of castor crop.

**Average Yield Castor Crop of Demonstration Beneficiaries and Non-Beneficiaries of Castor Growers**

The ‘t’ value shown in Table 3 indicated that there was highly significant difference in the average yield of castor crop between the demonstration beneficiaries and non-beneficiary castor growers. It means that the demonstration beneficiary castor growers had higher average yield of castor crop than demonstration non-beneficiary castor growers.

From the result it may be assumed that FLD had play significant role in busting up castor production of the demonstrator beneficiary castor growers.

**Table 3: Distribution of respondents according to their average yield of castor crop**

Sr. No.	Level of yield	Category of castor growers			
		Beneficiaries (n=60)		Non- beneficiaries (n=60)	
		Number	Per cent	Number	Per cent
1	Low yield (Below 2500 kg/ha)	13	21.67	25	41.67
2	Medium yield (Between 2500 to 3000 kg/ha)	36	60.00	29	48.33
3	High yield (Above 3000 kg/ha)	11	18.33	06	10.00
	Total	60	100.00	60	100.00
	Mean	29.3667		22.6833	
	S. D.	4.2305		2.9830	
	‘t’ value	9.722* *			

\*\* =Significant at 0.01 level

**Constrains Faced by the Castor Growers in Adoption of Castor Production Technology**

In the present study, some constrains faced by the castor growers were also studied. The information regarding this is given in Table 4.

**Table 4: Constrains faced by the castor growers in adoption of castor production technology**

n=120

Sr. No.	Constraints	Category of castor growers			
		Beneficiaries (n=60)		Non-beneficiaries (n=60)	
		Mean score	Rank	Mean score	Rank
1	Inadequate finance.	1.700	VII	1.567	VIII
2	Lack of technical guidance.	1.917	III	1.933	I
3	Unavailability of certified seed.	1.617	VIII	1.383	X
4	High cost of fertilizer.	2.000	I	1.900	II
5	Lack of irrigation water (Irregular rainfall).	1.983	II	1.783	IV
6	Irregular supply of electricity.	1.417	IX	1.483	IX
7	High rate of electricity.	1.850	IV	1.833	III
8	Shortage and high wages of labour.	1.067	XIII	0.867	XIV
9	Attack of pests and diseases.	0.917	XIV	1.050	XIII
10	Crop is susceptible to wilt.	1.733	VI	1.717	VI
11	Do not get remunerative price of production.	1.300	X	1.267	XI
12	High cost of seed	1.800	V	1.733	V
13	lack of local market facility	1.217	XI	1.633	VII
14	High production cost.	1.167	XII	1.183	XII

A glance of the Table 4 shows that high cost of fertilizers, lack of irrigation water (Irregular rainfall), lack of technical guidance, high rate of electricity, high cost of seed, crop is susceptible to wilt, inadequate financial, unavailability of certified seed, irregular supply of electricity, do not get remunerative price of production, lack of local market facility, high production cost, shortage and high wages of labour and attack of pests and diseases were main problems faced by demonstration beneficiary castor growers in adoption of castor production technology.

Incase of demonstration non-beneficiary castor growers, lack of technical guidance, high cost of fertilizers, high rate of electricity, lack of irrigation water (Irregular rainfall), high cost of seed, crop is susceptible to wilt, lack of local market facility, inadequate financial, irregular supply of electricity, unavailability of certified seed, do not get remunerative price of production, high production cost, attack of pests and diseases and shortage and high wages of labour were major problems faced by them in adoption of castor production technology.

## CONCLUSION

The findings infer that great majority of demonstration beneficiary (83.33 per cent) of castor growers had medium to high and non-beneficiary (80.00 per cent) of castor growers had low to medium level of knowledge about recommended castor production technology. The great majority of demonstration non-beneficiary (88.33 per cent) of castor

growers had low to medium and beneficiary (76.67 per cent) of castor growers had medium to high level of adoption about recommended castor production technology. The mean score of knowledge and adoption of demonstration beneficiary was seen to be higher than that of the non-beneficiary castor growers and difference was found to be statistically significant at one per cent level. It means that the demonstration beneficiary castor growers had better knowledge and adoption than demonstration non-beneficiary castor growers in recommended castor production technology. From the above findings an inference could be drawn that FLD conducted by KVK, Devataj had played an important role in increasing the knowledge and rate of adoption of the recommended crop production technology of castor crop. The results also depict that demonstration beneficiary castor growers had significantly higher average yield of castor crop than demonstration non-beneficiary castor growers. From the result it may be assumed that FLD had play significant role in busting up castor production of the demonstrator beneficiary castor growers. High cost of fertilizers, lack of irrigation water (irrigation rainfall), lack of technical guidance, high rate of electricity, high cost of seed, crop is susceptible to wilt, inadequate financial, unavailability of certified seed, irregular supply of electricity, do not get remunerative price of production, lack of local market facility, high production cost, shortage and high wages of labour and attack of pests and diseases were main problems faced by castor growers in adoption of castor production technology.