Extent of Adoption of Castor Production Technology by FLD and Non-FLD Farmers in Banaskantha District of Gujarat State

D.M. Kakkad[1], G.R. Patel[2] and N.B. Thakur[3]

ABSTRACT

The study was conducted in three talukas (Dantiwada, Vadgam and Dhanera) of Banaskantha District. All the nine villages in which frontline demonstrations on castor crop were conducted by KVK, Deesa were selected and a total of 150 respondents were selected for the study. The result revealed that nearly three-fifth (57.33%) of FLD respondents were in medium randomly category of adoption of castor production technology. Whereas 22.67 per cent had high and 20.00 per cent had low extent of adoption. In case of Non-FLD farmers, majority had medium extent of adoption of castor production technology, whereas, 30.67 per cent had low and 13.33 per cent had high level of adoption.

Keywords: Castor growers, Extent of adoption, FLD, Non-FLD, Castor production technology

INTRODUCTION

Castor is an important industrial non-edible oilseed crop. The Gujarat state ranks first in the country with respect to area, production and productivity among all major castor growing states in the country. The lack of transfer of technology from research system to the client system is the main problem in increasing agricultural production in the developing world. The present rate of agricultural production can be doubled if the available castor production technologies are brought to bear with production process and programme. This requires the steady flow of information from the scientist to the farmers. This is possible through the demonstration as it is an important and appropriate extension method which makes it possible to disseminate technology to the user farmers. Keeping this fact in view, the Government of India launched frontline demonstration programmes for increasing crops production. It has played significant role in increasing the knowledge, adoption and yield of recommended castor production technologies by the castor growers.

METHODOLGY

The study was conducted in Banaskantha District of Gujarat state as it ranks first in the state in area under castor cultivation. Three talukas viz., Dantiwada, Vadgam and Dhanera were selected for present investigation due to greater number of FLDs on castor crop were conducted in these three talukas by KVK, Deesa. All the nine villages in which frontline demonstrations on castor crop were conducted by KVK, Deesa were selected. A comprehensive list of FLD farmers was collected from the KVK, Deesa. Using proportionate random sampling method, 75 per cents FLD farmers were selected randomly and equal numbers of Non FLD farmers were also selected randomly from same villages. Thus, total 150 respondents were selected for the study. *Ex-post facto* research design was used for the study.

RESULT AND DISCUSSION

The data in Table 1 reveal that nearly three-fifth (57.33 per cent) of FLD respondents were found in

[1,3]Ph.D. Scholar, Department of Agricultural Extension & Communication, Anand Agricultural University, Anand-388110, Gujarat
[2]Assistant Professor, Office of Registrar, SDAU, Sardarkrushinagar–385506, Gujarat
*Corresponding author email id: kakkadkd@gmail.com

Table 1: Extent of adoption of castor production technology

S.No.	Extent of Adoption	Category			
		FLD farmers (n=75)		Non-FLD farmers (n=75)	
		Frequency	Per cent	Frequency	Per cent
1.	Low level Adoption $\leq$ Mean – S.D.	15 (Below 8.44)	20.00	23 (Below 7.20)	30.67
2.	Medium level Adoption Mean $\pm$ S.D.	43 (8.44 to 10.74)	57.33	42 (7.20 to 10.24)	56.00
3.	High level Adoption $\geq$ Mean + S.D.	17 (Above 10.74)	22.67	10 (Above 10.24)	13.33
	Total	75	100	75	100
	Mean	9.59		8.72	
	S.D.	1.15		1.52	
	'Z' value	3.919**			

medium category of adoption of castor production technology whereas 22.67 per cent had high and 20.00 per cent had low extent of adoption. In case of Non-FLD farmers, above half (56.00%) had medium adoption of castor production technology whereas, 30.67 per cent had low and 13.33 per cent had high level of adoption. The analysis of data showed that great majority of FLD respondents (80.00%) had medium to high and Non FLD respondents (86.67 per cent) of castor growers had medium to low level of adoption of castor production technology. It is evident that 'Z' value (3.919) was found to be highly significant, which indicate that FLD castor growers had significantly higher adoption of castor growers had significantly higher adoption of castor

production technology than Non FLD castor growers. The probable reason for having highly significant difference may be due to medium level of knowledge and moderately favourable attitude possessed by most of the FLD respondents. Another reason might be due to sincere efforts put forth by implementing agencies Krishi Vigyan Kendras to communicate the castor production technology to FLD respondents of North Gujarat.

The information regarding practice-wise adoption of castor production technologies is furnished in Table 2 and reveals that **in** case of FLD farmers, practices-wise adoption in descending order were; plant protection

Table 2: Practices-wise adoption of castor production technology

S.No.	Name of Practices	Category of Respondents					
		FLD farmers (n=75)			Non FLD farmers (n=75)		
		Frequency	Percent	Rank	Frequency	Percent	Rank
1.	Varieties grown	60	80.00	IV	54	72.00	VI
2.	Seed rate	55	74.33	VI	51	68.00	VIII
3.	Time of sowing	59	78.67	V	62	82.67	II
4.	Seed treatment	62	82.67	III	52	69.33	VII
5.	Spacing	54	72.00	VII	42	55.67	XI
6.	Farm Yard Manure	52	69.33	VIII	47	62.67	IX
7.	Chemical Fertilizer	65	86.33	II	60	79.67	III
8.	Total number of irrigations	42	56.00	XI	57	75.67	V
9.	Weeding and inter-culturing	50	66.66	IX	45	59.89	X
10.	Use of weedicides	46	61.33	X	57	76.00	IV
11.	Plant protection measures	67	89.00	I	63	84.00	I

Table 3: Association between extent of adoption of the respondents and their personal profile

S.No.	Personal profile	r-Value	
		FLD farmers (n= 75)	Non-FLD farmers (n= 75)
1.	Age	-0.0823[NS]	0.0494[NS]
2.	Education	0.2776[*]	0.1846[NS]
3.	Annual income	0.0884[NS]	0.0154[NS]
4.	land holding	0.2345[*]	0.2160[NS]
5.	Social participation	0.2498[*]	0.2382[*]
6.	Extension participation	0.2460[*]	0.2544[*]
7.	Sources of Information	0.2463[*]	0.1364[NS]
8.	Economic Motivation	0.2930[*]	0.1680[NS]
9.	Risk orientation	0.2350[*]	0.1995[NS]

measures (89.00%), chemical fertilizer (86.33%), seed treatment (82.67%), varieties grown (80.00%), time of sowing (78.67%), spacing (72.00%), farm yard manure (69.33%), weeding and inter-culturing (66.66%), use of weedicides (61.33%) and total number of irrigations (56.00%). In case of Non FLD farmers, practices-wise adoption in descending order were; Plant protection measures (84.00%), time of sowing (82.67%), chemical fertilizer (79.67%), use of weedicides/ herbicides (76.00%), total number of irrigations (75.67%), varieties grown (72.00%), seed treatment (69.33%), seed rate (68.00%), farm yard manure (62.67%), weeding and inter-culturing (59.89%) and spacing (55.67%).

The data in Table 3 reveal that in case of FLD respondents, out of the nine independent variables, education, land holding, social participation, extension participation, sources of information, economic motivation and risk orientation had positive and significant association with extent of adoption of castor production technology. Annual income had positive but not significant correlation with extent of adoption of castor production technology and age had negative and not significant correlation with extent of adoption of castor production technology.

While, in case of Non-FLD respondents, social participation and extension participation had positive and significant correlation with extent of adoption of castor production technology. Age, education, annual income, land holding, sources of information, economic motivation and risk orientation had positive and not significant correlation with extent of adoption of castor production technology. Similar results were reported by earlier researchers like Bhoi (2008); Chanu *et al* (2014) and Shrma (2015).

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