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Research Article

Adoption behaviour of recommended cauliflower production technology by the cauliflower growers

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SUMMARY : The study was conducted to determine the extent of adoption of the cauliflower growers regarding recommended cauliflower production technology by the farmers of Surguja district during 2011-12. Investigation confined in two blocks from out of seven blocks, namely Ambikapur and Batouli were purposively selected on the basis of stratified random sampling. From each block 8 villages and from each village 30 per cent farmers were randomly selected. Hence total 160 cauliflower growers were interviewed personally. Majority (58.75%) of the respondents had medium level of adoption, 65.00 per cent respondents know the favourable weather and climate condition for cauliflower production technology.

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KEY WORDS :
Adoption, Cauliflower production, Recommended, Production technology

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BACKGROUND AND OBJECTIVES

Indian subcontinent is endowed with salubrious climate which permits growing of vegetables throughout the year. Vegetables play an important role in balanced nutrition as they are rich and cheap source of carbohydrates, vitamins and minerals. They occupy an important place in the food basket of India. India is next only to China in area and total production of vegetables with an average productivity of 15.2 tonnes ha^{-1} (APEDA, 2010). It occupies prime position in the production of cauliflower, second in onion and third in cabbage in the world. However, there is huge scope to further boost the production by increasing the productivity per unit area of land with the help of improved technologies (Gopalakrishnan, 2007). The vegetable sectors also suffers from lack of availability of good quality planting material and low use of hybrid seeds (Reddy and Tirkey, 2004).

The total geographical area of India is 328.7 million hectares of which 140.3 million hectares is net sown area, while 193.7 million hectares is the gross cropped. Vegetables are being grown in India in 79, 85,000 hectares with production of about 13, 37, 38,000 MT. and productivity of 16.7 MT ha^{-1}. This is second highest in the world, next only to China (Anonymous, 2010). The vegetables grown in Chhattisgarh state in 3,34,916.92 hectares with the production of 41,49,042.11 MT. and productivity of 12.39 MT/ha^{-1}. Among major vegetable crops, cauliflower occupies maximum of 34,79,000 hectares with net production of 65,69,000 MT. and productivity of 18.9 MT ha^{-1} in India. An area of 18,384.45 hectares comes under cauliflower crop in Chhattisgarh state with the production of 3, 05,974.57 MT. and productivity of 16.64 MT ha^{-1} and area of 1,600 hectares comes under cauliflower crop in Surguja district with the production of 24,000 MT. and productivity of 9.5 MT/ha^{-1} (Anonymous, 2011).

RESOURCES AND METHODS

The study was carried out in Surguja district of Chhattisgarh state, during 2011-12. Chhattisgarh state comprised of 27 districts out of which Surguja district was randomly selected for the study. Out of total seven blocks of Surguja district, two blocks namely Ambikapur and Batouli were selected purposively for the present study. From each block 8 villages and from each village 30 per cent farmers were randomly selected (from enlisted total 532 farmers from directorate of

horticulture), thus total 160 cauliflower growers were interviewed personally. The data were collected through a well-structured and pre tested interview schedule, researcher personally met with the respondents and build the rapport. Data were recorded in interview schedule, appropriate statistical methods *i.e.* mean, average, frequency, standard deviation, and correlation were used for analysis and interpretation of the data.

Extent of adoption regarding recommended cauliflower production technology:

It is mental process through which an individual passes from hearing about an innovation to final adoption (Rogers, 1995). It was operationalized as the degree of the use of recommended practices of cauliflower production. Adoption refers to the extent of use of recommended farming practices of cauliflower cultivation by cauliflower growers. Extent of adoption of respondents about practices in cauliflower cultivation was measured by undertaking the recommended package of practices for obtaining higher production of cauliflower released in the year 2012 by Indira Gandhi Krishi Vishwavidyalaya, Raipur. To measure the extent of adoption of recommended cauliflower production technology an interview schedule was prepared in which 20 items were converted into questions.

To measure extent of adoption, recommended important practices were listed and responses for each practice were obtained into three point scale as under:

Categories	Score
Not adopted	1
Partially adopted	2
Fully adopted	3

The respondents were classified into three categories by using following formula:

A.I. = Mean ($\overline{X}$) ± S.D. (Standard Deviation)

Categories	
Low level of adoption	(< $\overline{X}$ – S.D.)
Medium level of adoption	(in between $\overline{X}$ ± S.D.)
High level of adoption	(> $\overline{X}$ + S.D.)

OBSERVATIONS AND ANALYSIS

The observations of the present study as well as relevant analysis have been summarized under the following heads:

Extent of adoption of recommended cauliflower production technology by cauliflower growers:

Over all extent of adoption is clearly indicated that the majority (58.75%) of the respondents had medium level of adoption followed by 22.50 and 18.75 per cent of low and high level of adoption about recommended cauliflower production technology, respectively. Prajapati *et al.* (2002), Venkatesh (2002), Venkatramalu (2003), Singh *et al.* (2004), Raghavendra (2005), Dhruw (2008) and Singh *et al.* (2010) noticed almost similar findings in their study (Table 1).

Table 1 : Distribution of respondents according to overall adoption of recommended cauliflower production technology

Sr. No.	Extent of adoption	Frequency	Per cent
1.	Low	36	22.50
2.	Medium	94	58.75
3.	High	30	18.75
	Total	160	100.00

The data in Table 2 reveal that the respondents had low adoption regarding selected practices of cauliflower production technology *i.e.* storage (98.74%), use of plant growth regulators (86.87%), preparation of land (40.63%), weed management (38.75%), seed treatment (29.38%), use of micronutrients (26.88%), disease management (25.00%), marketing (23.13%), irrigation management (21.87%), seed sowing method (20.63%), selection of seed (18.13%), seed rate and intercropping (17.50%), plant to plant spacing (13.75%), preparation of nursery bed (13.13%), time of harvesting (12.50%), row to row spacing (11.25%) , transplanting methods (9.38%), time of sowing (9.38%), favourable weather and climate (8.75%), use of manure and pest management (7.50%), use of fertilizers (6.25), selection of land and soil (3.13%) intercultural operations (1.87%).

However, the majority (81.25%) respondents had medium level of adoption regarding recommended pest management methods followed by use of manure (72.50%), time of sowing (71.25%), intercultural operations (64.37%), plant to plant spacing (63.75%), use of fertilizers (63.13%), irrigation management (60.63%), row to row spacing (60.00%), preparation of nursery bed (56.25%), selection of land and soil and transplanting methods (55.00%), marketing (53.75%), selection of seed (51.25%), weed management (50.00%), seed sowing method (49.37%), seed treatment (48.75%), seed rate (48.13%), use of micronutrients (44.37%), disease management (43.75%), preparation of land (35.63%), intercropping (35.00%), selection of weather and climate (26.25%), and storage (0.63%).

While under the high adoption group majority (65.00%) had practices at appropriate selection of weather and climate followed by intercropping (47.50%), selection of land and soil (41.87%), time of harvesting (38.75%), transplanting methods (35.62%), seed rate (34.37%), intercultural operation (33.75%), selection of seed and preparation of nursery bed, use of fertilizer (30.62%), seed sowing method (30.00%), use of micronutrients and row to row spacing (28.75%), preparation

Table 2 : Distribution of respondents according their practice wise adoption of recommended cauliflower production technology

Sr. No.	Selected practice/situation of cauliflower production technology	Extent of adoption		
		Low F (%)	Medium F (%)	High F (%)
1.	Favourable weather and climate	14 (08.75)	42 (26.25)	104 (65.00)
2.	Selection of land and soil	05 (03.13)	88 (55.00)	67 (41.87)
3.	Preparation of land	65 (40.63)	57 (35.63)	38 (23.74)
4.	Selection of seed	29 (18.13)	82 (51.25)	49 (30.62)
5.	Time of sowing	15 (09.38)	114 (71.25)	31(19.37)
6.	Seed treatment	47 (29.38)	78 (48.75)	35 (21.87)
7.	Seed sowing method	33 (20.63)	79 (49.37)	48 (30.00)
8.	Seed rate	28 (17.50)	77 (48.13)	55 (34.37)
9.	Preparation of nursery bed	21 (13.13)	90 (56.25)	49 (30.62)
10.	Transplanting methods	15 (9.38)	88 (55.00)	57 (35.62)
11.	Plant to plant spacing	22 (13.75)	102 (63.75)	36 (22.5)
	Row to row spacing	18 (11.25)	96 (60)	46 (28.75)
12.	Intercultural operations	03 (01.88)	103 (64.37)	54 (33.75)
13.	Intercropping	28 (17.50)	56 (35.00)	76 (47.50)
14.	Irrigation management	35 (21.87)	97 (60.63)	28 (17.50)
15.	Use of manure	12 (07.50)	116 (72.50)	32 (20.00)
16.	Use of fertilizers	10 (06.25)	101 (63.13)	49 (30.62)
17.	Use of micronutrients	43 (26.88)	71 (44.37)	46 (28.75)
18.	Use of plant growth regulators	139 (86.87)	20 (12.50)	01 (00.63)
19.	Weed management	62 (38.75)	80 (50.00)	18 (11.25)
20.	Pest management	12 (07.50)	130 (81.25)	18 (11.25)
21.	Disease management	40 (25.00)	70 (43.75)	50 (31.25)
22.	Time of harvesting	20 (12.50)	78 (48.75)	62 (38.75)
23.	Storage	158 (98.74)	01 (00.63)	01 (00.63)
24.	Marketing	37 (23.13)	86 (53.75)	37 (23.12)

F -Frequency, (%) - Per cent

Table 3 : Co-efficient of correlation of independent variables with the adoption of recommended cauliflower production technology

Sr. No.	Independent variables	Co-efficient of correlation "r" value
1.	Education	0.106NS
2.	Caste	-0.192*
3.	Family size	0.042NS
4.	Social participation	0.175*
5.	Occupation	0.230**
6.	Land holding	-0.042NS
7.	Annual income	0.037NS
8.	Credit acquisition	0.174*
9.	Scientific orientation	0.381**
10.	Source of information	0.226**
11.	Contact with extension agencies	0.351**
12.	Irrigation facility	0.185*
13.	Knowledge about recommended cauliflower production technology	0.711**

* and ** indicate significance of values at P=0.05 and 0.01, respectively NS = Non-significant

of land (24.37%), marketing (23.12%), plant to plant spacing (22.52%), seed treatment (21.87%), use of manure (20.00%), time of sowing (19.37%), water management (17.50%), weed and pest management (11.25%) and use of plant growth regulators and storage (0.63%).

Correlation analysis of independent variables with adoption of recommended cauliflower production technology:

Table 3 revealed that out of 13 independent variables, three variables *i.e.* social participation, credit acquisition and irrigation facility had positive and significant, variable caste had negative and significant relation with the extent of adoption of recommended cauliflower production technology at 0.05 level of probability. Whereas the variables occupation, scientific orientation, source of information, contact with extension agencies, and knowledge about recommended cauliflower production technology had positive and significant relation with the extent of adoption of recommended cauliflower production technology at 0.01 level of probability.

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REFERENCES

Anonymous (2011).Directorate of Horticulture, C.G.

Anonymous (2010). Directorate of Horticulture, C.G.

Dhruw, K.S. (2008). A study on adoption of recommended maize production technology among the farmers of Kanker district of Chhattisgarh state. M. Sc. (Ag.) Thesis, IGKV, Raipur, C.G. (INDIA).

Gopalakrishnan, T.R. (2007). *Vegetable crops*. New India Publishing Agency, Pitampura, New Delhi. 34 pp.

Raghavendra, R. (2005). Study on knowledge and adoption of recommended cultivation practices of cauliflower growers in Belgaum district of Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).

Rogers, E.M. (1995). Diffusion of Innovation. The Free Press, New York

Prajapati, M.R., Patel, V.T., Choudhary, N.V. and Soni, M.C. (2002). Constraints experienced by growers in adoption of recommended chilli technology. *Gujarat. J. Extn. Edu.,* **12-13**: 55-58.

Reddy, T.M. and Tirkey, I. (2004).Adoption of improved technologies of vegetable crops in Karnataka. Proceedings on impact of vegetable research in India. NACEP, New Delhi. pp. 143-150.

Singh, D.K., Singh, B.K., Yadav, V.P.S. and Singh, L. (2010). Adoption behaviour of commercial vegetable growers in district Ghaziabad (UP.) *Indian Res. J. Ext. Edu.,* **10** (3): 66-70.

Singh, S.R., Bachcha, R., Singh, D.N. and Singh, S.B. (2004). Adoption of sugarcane production technology. *Cooperative Sugar,* **36** (1): 49-51.

Venkatesh, G. (2002). Knowledge level and adoption behaviour of vegetable growers with respect to IPM of tomato crop in Kolar district of Karnataka. M. Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).

Venkataramalu (2003). Study on the knowledge level adoption and marketing behaviour of chilli growers in Guntur district of Andhra Pradesh. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).