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Adoption of Recommended Cabbage Production Technology by the Growers

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A B S T R A C T

Vegetable plays an important role in human nutrition. Recently, interest in vegetable production has been increased tremendously as a result of greater appreciation of the food value of vegetable and the place of vegetable in the nation requirement. Vegetables are indispensable group of food, providing vitamins, minerals, protein, carbohydrates and fibers in the diet besides having medicinal value and provide nutritional security. Hence the present study was conducted in Aurangabad District the Gangapur, Khulatabad and Aurangabad talukas were chosen randomly as they have considerable area under cabbage crop. The sample was constituted 120 cabbage growers drawn from twelve villages. Ten respondents are selected randomly from each villages for the study. The respondents were interviewed with the help of a specially designed schedule. The ex-post facto research design was used for the present stud.Majority91.66 per cent respondents fully adopted recommended production technology of covering curd with leaf while only 8.33 per cent respondents not adopted recommendation. Majority 58.33 per cent had fully adopted fertilizers as per the recommendation and 25.00 per cent of respondents partially adopted fertilizer dose, while 16.66 per cent respondents had not adopted recommended dose of fertilizer. The present study was used multistage sampling procedure. Collected data were classified, tabulated and analyzed by using statistical methods like frequency, percentage, mean and standard deviation.

Introduction

The present agriculture is entering into era of science of technology. In is era commercially farming is important rather than traditional fanning. Today farmers need latest knowledge and skill and became more modem than their forefathers. Indeed he has to be an innovative to make a living in this competitive word. Horticulture plays an important role in Indian economy, horticulture is an art, science and business, it is a branch of agriculture concerned an intensively cultured parts directly used by human being for food and aesthetic purposes.

Cabbage (*Brassica oleracea L.var. capitata*) is a cole crop which belongs to genus Brassica of cruciferacea family. Cabbage is from a group of plant known as the cole crop. The word "cole" derives from the Middle English word "col". The Romans called these crops "caulis", and the Greeks called them "kaulion". All these words mean "stem". This

group of plants includes cabbage, cauliflower, knol-khol and broccoli. Cabbages originated in Western Europe and cauliflower and broccoli in the Mediterranean region. In Plato's Republic, it is mentioned as a desired element in a diet 9 cabbage was held in high esteem by the ancient Greeks and is said to have been worshipped by the Egyptains. India is the second largest producer of vegetables (next to china) with 2.8 per cent of total cropped area under vegetable crops, contributing 14 per cent to world production. Area under vegetable crops in India 8495 thousand ha and production was 146554 thousand MT in year 2010-2011. In Maharashtra, the total area under vegetable crops was 611.0 thousand ha with 7504 thousand MT and 12.3 MT production and productivity respectively. (Annon, 2011 a). Per capita consumption of vegetables has been increased from 95 g to 175 g as against 284 g, recommended dietary requirement per day.

The adoption of recommended cultivation practices by farmers is conditioned by many factors that interact with each other's. In such situation, it was thought essential to know which of these factors influenced the adoption behavior of cabbage grower. The success of any enterprise depends upon participation of more and more fanners in it. Similarly extension workers have to play a more vital role to educate the farmers to take up cabbage production on their farms.

The present study is therefore an attempt to understand the level of adoption and potential characteristics of cabbage growing farmers. This may help extension personnel in boosting cabbage production by locating such fanners and by providing necessary facilities to them, It is expected that it will provide a feedback to the concerned horticultural scientists in agricultural universities and policy makes of the development departments.

Materials and Methods

The present research was confined to Aurangabad, Khulatabad and Gangapurtalukas of Aurangabad district of Marathwada region of Maharashtra state as it has considerable area under cabbage crop.One shot case study research design with "Ex-Post-Facto" research approach was used for present study.From Aurangabad District the Gangapur, Khulatabad and Aurangabad talukas were chosen randomly as they have considerable area under cabbage crop.The villages from Aurangabad taluka, Gangapurtaluka and Khulatabadtaluka are ranked on die bads of area under cabbage crop and top four villages from each talukas were randomly selected for the study. From each selected village 10 respondents selected for the present study by random sampling method. Thus, the total 120 respondents was the sample for this study. The respondents were obtained through personal interview with the help of a structured schedule especially designed for the purpose of present study. The present study was used multistage sampling procedure. Collected data were classified, tabulated and analyzed by using statistical methods like frequency, percentage, mean and standard deviation.

Results and Discussion

Recommended production technology adopted by the cabbage growers

Adoption about preparatory tillage

From Table 1 it was revealed that 100 per cent of the respondents had fully adopted for subtropical and dry climate conditions. About 85.00 per cent of respondents had completely adopted 1-2 ploughings and 2-3 harrowing's before sowing as per recommendation, Majority of cabbage growers 75.00 per cent had fully adopted medium, well-drained soil for cabbage cultivation as recommended,

50.00 Per cent of the respondents partially adopted manorial dose whereas 41.66 per cent of the respondents fully adopted manorial dose as per recommendation whereas 23.33 per cent of respondents had partially adopted recommended type of soil, 12.50 per cent of the respondents partially adopted.it, 8.33 per cent respondents had not adopted manure while 2.5 per cent of the respondents did not adopt the recommended production technology and 1.66 per cent respondents had not adopted medium, well-drained soil for cabbage cultivation as recommended.

Adoption about seed and sowing

It was observed from Table 1 that majority of the respondents 83.33 per cent had fully adopted main winter season for sowing as per recommended, 75.00 per cent had fully adopted seed rate as per recommendation while 70.83 per cent adopted fully transplanting period of the cabbage as per recommendation, 66.66 per cent of the respondents had partially adopted sowing distance. Majority of respondents 41.66 per cent respondents had not adopted seed bed size for sowing and 33.33 had adopted seed bed size for sowing partially recommendation while only 25.00 per cent of the respondents adopted fully for size of seed bed as per the recommendation, while 25.00 per cent respondents had adopted fully for spacing. 25.00 per cent respondents had partially adopted seed rate as per recommendation, 20.83 per cent of the respondents adopted it partially for transplanting period and 16.66 per cent of them had partially adopted the recommended season for sowing of cabbage crop while 8.33 per cent of the respondents not adopted for transplanting period, 8.33 per cent of the respondents had not adopted the recommended sowing distance for cabbage crop.

Adoption about inter cultivation

Table 1 indicated that 75.00 per cent respondents had fully adopted intercultural operations as per recommendation while 25.00 per cent respondents adopted it partially.

Adoption about fertilizers use

It was observed from Table 1 that most of the respondents 58.33 per cent had fully adopted fertilizers as per the recommendation and 25.00 per cent of respondents partially adopted fertilizer dose, while 16.66 per cent respondents had not adopted recommended dose of fertilizer.

Adoption about irrigation technology

It was seen from Table 1 that majority 83.33 per cent had fully adopted ridge and furrow method of irrigation while 83.33 per cent had fully adopted for gap between irrigation days and 16.66 per cent respondents not adopted recommended method of irrigation while 16.66 per cent respondents had partially adopted recommended irrigation gap.

Adoption about plant protection measures

Table 1 highlighted that 70.83 respondents had partially adopted, 20.83 per cent of respondents had adopted recommended plant protection measures for controlling pest and 8.33 per cent of them had not adopted recommended plant protection measures. It was manifested from Table 11 that 65.00 respondents had partially adopted 25.00 per cent of respondents had fully adopted recommended plant protection measures for controlling diseases and 10.00 per cent of them had not adopted recommended plant protection measures for disease control. Table 1 indicated that 91.66 per cent respondents fully adopted recommended production technology of covering curd with leaf while only 8.33 per cent respondents not adopted recommendation.

Table.1 Distribution of the respondents accordingly to extent of adoption about recommended production technology of cabbage crop

Sl. No	Recommended Practices	Adoption (N = 120)		
		Complete	Partial	No
1	**Preparatory tillage**			
1.1	Selection of medium, well drain soil	90 (75.00)	28 (23.33)	02 (1.66)
1.2	Climate condition required	120 (100)	-	-
1.3	Ploughing and harrowing before sowing	102 (85.00)	15 (12.50)	03 (2.50)
1.4	Quantity of FYM (20-30 cartloads)	50 (41.66)	60 (50.00)	10 (8.33)
2.	**Seed and Sowing**			
2.1	Main winter season cultivation.	100 (83.33)	30 (16.66)	-
2.2	Seed rate (600 to 700 gm/ha)	90 (75.00)	30 (25.00)	-
2.3	Size of Seedbed (3x1x0.15 m)	30 (25.00)	40 (33.33)	50 (41.66)
2.4	Transplanting period	85 (70.83)	25 (20.83)	10 (8.83)
2.5	Spacing (45x 45)	30 (25.00)	80 (66.66)	10 (8.83)
3.	**Inter Cultivation**			
3.1	2 to 3 hoeing's	90 (75.00)	30 (25.00)	-
4.	**Fertilize**			
4.1	Recommended fertilizer dose (60:40:40)	70 (58.33)	30 (25.00)	20 (16.66)
5.	**Irrigation**			
5.1	Method of irrigation	100 (83.33)	-	20 (16.66)
5.2	Gap between irrigation 7-8 days	100 (83.33)	20 (16.66)	-
6.	**Plant Protection**			
6.1	Recommended plant protection measures for pest (Quinolphos)	25 (20.83)	85 (70.83)	10 (8.83)
6.2	Recommended plant protection measures for disease (Copper oxychloride)	30 (25.00)	78 (65.00)	12 (10.00)
7.	**Curds covers with leafs**	110 (91.66)	-	10 (8.83

Table.2 Distribution of the respondents according to level of overall knowledge of recommended production technology of cabbage crop

Sr.No.	Level of Knowledge	Respondents	
		Frequency	Percentage
1.	Low (Up to 11)	38	23.33
2.	Medium (12 to 18)	35	45.84
3.	High (19 and above)	37	30.83
Total		**120**	**100**

Table.3 Distribution of the respondents according to level of overall adoption of recommended production technology of cabbage crop

Sr.No.	Level of adoption	Respondents	
		Frequency	Percentage
4.	Low (up to 14)	33	27.51
5.	Medium (15 to 21)	53	44.16
6.	High (22 and above)	34	28.33
Total		**120**	**100**

Knowledge level

As regards that knowledge level of respondents about recommended production technology of cabbage crop, the respondents were categorized with the help of mean ± S.D. The data in this regard are given in Table 2.

Table 2 shows that majority 45.84 per cent of the respondents were having medium level of knowledge of recommended technology followed by 30.83 per cent of respondents were having high knowledge level of recommended production technology of cabbage. Whereas 23.33 per cent of the respondents were having low knowledge levels. It can be said that the knowledge level of the majority of the respondents were nearly satisfactory. The medium level of knowledge majority might be due to the fact that farmers might not have been exposed totally to different information sources. Also it might be due to their ignorance tendency towards different information sources. These findings are in line with the findings of shinde (2002).

Adoption level

As regards that adoption level of respondents about recommended production technology of cabbage crop, the respondents were categorized with the help of mean S.D. The data in this regard are given in Table 3.

Table 3 shows that majority 44.16 per cent of the respondents were having medium level of adoption of recommended technology followed by 28.33 per cent of respondents were having high adoption level of recommended production technology of cabbage. Whereas 27.51 per cent of the respondents were having low adoption levels. Similar type of finding is found by Waghmode (2005) and Bedre (2009).

In conclusion it was observed in the present study that majority of the cabbage growers had medium knowledge and adoption level with respect to production technology of cabbage growers. It goes without saying that a cabbage growers fetches fabulous income if

almost recommended production technology is followed by cabbage growers. This implies that for enhancing adoption level, they should have also a high level of knowledge and skill to avoid the difficulty in actual use. Hence it is suggested that an organized programme in cabbage production, trainings, demonstrations and frequent field visits should be taken up by the concerned extension agency so that knowledge and adoption level of recommended production technology of cabbage growers is enhanced.

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