



Research Article

PERCEPTION OF TURMERIC GROWERS TOWARDS UNIVERSITY RECOMMENDED TURMERIC STEAM PRESSURE COOKER

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Abstract: Turmeric is referred as Indian saffron scientifically known as *Curcuma longa* and commonly called as haldi. The research study was conducted in Sangli district of Maharashtra, India during 2019-20, with a sample size of 140, from two tahsils namely Walwa and Miraj with the objectives viz. to Study the Personal, socio-economic, communicational and psychological characteristics of turmeric growers, to analyze the turmeric growers perception towards attributes of steam pressure cooker and to find out the relationship between selected characteristics with perception of turmeric growers. An Ex-post facto design of social research was used for the present investigation. The results revealed that, the 56.42 percent respondents had moderately favorable perception towards Turmeric Steam Pressure Cooker. Majority of the turmeric growers using University recommended Turmeric Steam Pressure Cooker under to study were found to be middle age, secondary (up to 10 Std.) in education, medium family size, small land holding and moderate farming experience, medium income, medium level of marketing behavior, medium extension contract, medium level of Innovativeness and medium level of Scientific orientation towards University recommended Turmeric Steam Pressure Cooker. The selected variables viz., Education, Family Size, Land Holding, Annual Income, Farming Experience, Marketing Behaviour, Innovativeness, Scientific Orientation, Extension Contact, Area under turmeric, Varietal Preference were in positive and significant relationship with perception. Whereas, the variable age had negative and non-significant relationship with the perception.

Keywords: Perception of turmeric growers, Turmeric Steam Pressure Cooker, Profile of turmeric growers

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Introduction

India has been predominantly an agricultural country and the major development is ongoing in the field of Horticulture. The turmeric and other spices have high demand in the world. Hence, it is true that progress of India is very much dependent on the export of the quality turmeric powder and it requires the well-developed good grade of turmeric, and it is only possible after the proper way of turmeric curing. The boiling process should be proper and efficient to conserve the characteristics of the turmeric. It is possible with the University Recommended Turmeric Steam Pressure Cooker. The increased quality production depends upon the number of factors of which, boiling play an important role. By keeping in view the present study entitled "Perception of turmeric growers towards University Recommended Turmeric Steam Pressure Cooker" was conducted with the objectives viz., to Study the Personal, Socio-economic, Communicational and Psychological Characteristics of Turmeric Growers, to analyze the Turmeric Growers Perception towards attributes of steam Pressure Cooker and to find out the relationship between selected characteristics with Perception of Turmeric Growers. With the help of above objectives a hypothesis was formulated that there exists significant relationship between profile of turmeric growers with their perception towards University Recommended Turmeric Steam Pressure Cooker.

Material and Methods

The Present study was conducted in the year 2020 at Sangli district of Maharashtra, India. Two tahsils namely Walwa and Miraj as it has highest Area under turmeric cultivation were selected. two villages were selected from both tahsils. For the present study 140 respondents were selected by simple random sampling procedure. Here the researcher is having no control over the independent variables which have already occurred.

Therefore, Ex-post facto design of social research was used for the present investigation. In the light of objectives set for study, one dependent variable was selected for the study i.e. perception. The variables age, education, family size, land holding, annual income, farming experience, marketing behaviour, Innovativeness, Scientific Orientation, Extension contact, area under turmeric, varietal preference were the independent variables. A well-structured interview schedule designed for study was used for collecting the data from respondents through personal interview method. The data collected data were edited, tabulated and analyzed using statistical measures such as frequency, percentage, range, mean, standard deviation and coefficient of correlation.

Results and Discussion

Personal, Socio-economic, Communicational and Psychological Characteristics of Turmeric Growers

It is found from [Table-1] that, majority of the Turmeric growers using University recommended Turmeric Steam Pressure Cooker under to study were found to be middle age, secondary (up to 10 std.) in education, medium family size, small land holding and moderate farming experience. It was also found that majority of the respondents had medium income, medium level of Marketing behaviour, medium extension contract, medium level of Innovativeness and medium level of Scientific orientation towards University recommended Turmeric Steam Pressure Cooker. These findings are in line with the findings of Bhati *et.al.* (2014) [1], Deeksha and Sachan (2016) [2].

Perception of Turmeric Growers towards attributes of Turmeric Steam Pressure Cooker

Overall Perception of turmeric growers towards Turmeric Steam Pressure Cooker

Table-1 *Personal, Socio-economic, Communicational and Psychological Characteristics of Turmeric Growers*

SN	Variables	Category	Respondents (n=140)	
			Frequency	Percentage
1.	Age	Young (Up to 35 years)	43	30.71
		Middle (36 to 56 years)	81	57.85
		Old (57 and above years)	16	11.42
2.	Education	Illiterate	15	10.71
		Primary Education (1 st to 4 th Std)	24	17.14
		Middle school (5 th to 7 th Std)	26	18.57
		Secondary education (8 th to 10 th Std)	40	28.57
		Higher Secondary Education (11 th to 12 th Std)	22	15.71
		Graduate and Post graduate (above 12 th Std)	13	9.28
3.	Size of family	Small (Up to 6 Members)	65	46.42
		Medium (7 to 10 Members)	58	41.42
		Large (11 and above Members)	17	12.14
4.	Land Holding	Marginal (Upto 1 ha)	9	6.42
		Small (1.01 to 2 ha.)	59	42.14
		Semi-medium (2.01 to 4 ha.)	51	36.42
		Medium (4.01 to 10 ha.)	21	15
		Large (10.01 ha. and above)	0	0.00
5.	Annual Income	Low (Upto Rs. 2,86,667)	65	46.42
		Medium (Rs. 2,86,668 to 5,03,334)	54	38.57
		High (Rs. 5,03,335 and above)	21	15
6.	Farming Experience	Less (Upto 20 Years)	89	63.57
		Moderate (21 to 35 Years)	46	32.85
		More (36 and above Years)	05	3.57
7.	Marketing Behaviour	Low (up to 15 score)	20	14.28
		Medium (16 to 19 score)	77	55
		High (Above 20 score)	43	30.71
8.	Innovativeness	Low (Up to 15 score)	33	23.57
		Medium (16 to 19 score)	85	60.71
		High (Above 20 score)	22	15.71
9.	Scientific orientation	Low (Up to 16 score)	34	24.28
		Medium (17 to 21 score)	90	64.28
		High (Above 22 score)	16	11.42
10.	Extension contact	Low (Upto 5 score)	30	21.42
		Medium (6 to 8 score)	74	52.85
		High (9 and above score)	36	25.71
11.	Area under Turmeric	Low (Up to 2 ha)	113	80.71
		Medium (2.1ha to 3ha)	18	12.45
		High (3.1ha and above)	9	6.42

Perception is one personal interpretation of external events. Perception is the recognition or awareness of an object or event through the sense organs. For the present study the perception was defined as the perceived useful attributes of Turmeric Steam Pressure Cooker recommended by Mahatma Phule Krishi Vidyapeeth, Rahuri. by respondent. The information regarding the Perception of turmeric growers towards Turmeric Steam Pressure Cooker collected, tabulated and analyzed. The results are presented in [Table-2].

Table-2 *Distribution of the respondents according to their Perception towards Turmeric Steam Pressure Cooker*

SN	Category	Respondents (n=140)	
		Frequency	Percent
1.	Less favorable (Up to 42)	31	22.14
2.	Moderately favorable (43 to 57)	79	56.42
3.	Highly favorable (58 and above)	30	21.42
	Total	140	100.00

Range = 8.66

It is observed from [Table-2] that 56.42 percent respondents had moderately favorable perception towards Turmeric Steam Pressure Cooker, followed by 21.42 percent respondents had highly favorable perception and 22.14 percent respondent had less favorable perception towards Turmeric Steam Pressure Cooker. This finding is consistent with the findings of Dheeraj and Kalyan, (2015) [3]; Kangale and Deshmukh (2016) [4].

Statement wise distribution of respondents according to their perception towards University recommended Turmeric Steam Pressure Cooker

The statement wise information of respondents pertaining to their perception towards University recommended Turmeric Steam Pressure Cooker collected, tabulated and analyzed. The results are presented in [Table-3].

Statement wise finding on perception of turmeric growers towards Steam Pressure Cooker

The information pertaining to the perception of farmers towards Turmeric Steam Pressure Cooker in [Table-3] is discussed as under.

Use of TSPC cooks turmeric rhizomes uniformly

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 75 percent of them had agree about Use of TSPC cooks turmeric rhizomes uniformly, followed by 16.42 percent of the respondent had undecided and 08.57 percent of the respondents had disagree with the statement.

TSPC keeps the quality of turmeric properly

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 63.57 percent of them had agree about TSPC keeps the quality of turmeric properly, followed by 26.42 percent of the respondent had undecided and 10 percent of the respondents had disagree with the statement.

TSPC promotes the time saving while cooking (required less time for cooking)

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 69.28 percent of them had agree about TSPC promotes the time saving while cooking(required less time for cooking), followed by 23.57 percent of the respondent had undecided and 7.14 percent of the respondents had disagree with the statement.

Table-3 Distribution of the respondents according to their perception towards attributes of Turmeric Steam Pressure Cooker, (n=140)

SN	Statements	Agree		Undecided		Disagree	
		F	%	F	%	F	%
1.	Use of TSPC cooks turmeric rhizomes uniformly	105	75	23	16.42	12	8.57
2.	TSPC keeps the quality of turmeric properly	89	63.57	37	26.42	14	10
3.	TSPC promotes the time saving while cooking (required less time for cooking)	97	69.28	33	23.57	10	7.14
4.	TSPC not requires skilled labours	30	21.42	57	40.71	53	37.85
5.	Using TSPC we found the early drying of rhizomes	76	54.28	48	34.28	16	11.42
6.	TSPC use reduces the labour cost	81	57.85	34	24.28	25	17.85
7.	As the high price for the purchase of TSPC farmers refuses to purchase it	102	72.85	26	18.57	12	8.57
8.	Use of TSPC increases farmers income	98	70	24	17.14	18	12.85
9.	It is possible to increase the size of TSPC as per the required.	78	55.71	54	28.57	8	5.71
10.	Using TSPC turmeric growers will be able to start entrepreneurship.	112	80	22	15.71	6	4.28
11.	Using TSPC it is possible to improve qualitative characteristics of the produce.	102	72.85	26	18.57	12	8.57
12.	The turmeric rhizomes cooked using conventional method gives same production as given by using TSPC.	36	25.71	48	34.28	56	40.00
13.	using TSPC gives good quality turmeric powder so it gives good rate for produce.	98	70	32	22.85	10	7.14
14.	Using TSPC it is possible to get uniform colour to the turmeric powder.	98	70	22	15.71	20	14.28
15.	Extra income should be achieved by giving TSPC to other farmers on rent.	114	81.42	20	14.28	6	4.28
16.	Use of TSPC not hazardous to environment.	19	13.57	45	32.14	76	54.28
17.	Turmeric growers are aware about the government's subsidies for purchase of TSPC.	69	49.28	23	16.42	48	34.28
18.	Pressure maintenance is possible in TSPC, which helps in quality improvement.	75	53.57	51	36.42	14	10
19.	TSPC is easily mounting on tractor helps in handling properly.	101	72.14	37	26.42	2	1.42
20.	For turmeric cooking use of TSPC is risky.	76	54.28	48	34.28	16	11.42
21.	TSPC is useful mostly to the big turmeric growers.	121	86.42	17	12.14	2	1.42
22.	TSPC will not makes loss because it shows indication after rhizomes cooked successfully.	75	53.57	48	34.28	17	12.14
23.	TSPC saves the fuel, because of high efficiency.	87	62.14	41	29.28	12	8.57
24.	Presence of safety valve and thickness of TSPC always protects its structure.	70	50	63	0.45	7	5
25.	Because of TSPC turmeric growers acts enthusiastically and it forces them to high production.	92	65.71	33	23.57	15	10.71

A = Agree, UD = Undecided, D = Disagree, F = Frequency, TSPC= Turmeric Steam Pressure Cooker

TSPC not requires skilled labours.

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 21.42 percent of them had agree about TSPC not requires skilled labors, followed by 40.71 percent of the respondent had undecided and 37.85 percent of the respondents had disagree with the statement.

Using TSPC we found the early drying of rhizomes

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 54.28 percent of them had agree about Using TSPC we found the early drying of rhizomes, followed by 34.28 percent of the respondent had undecided and 11.42 percent of the respondents had disagree with the statement.

TSPC use reduces the labour cost

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 57.75 percent of them had agree about TSPC use reduces the labour cost, followed by 24.28 percent of the respondent had undecided and 17.85 percent of the respondents had disagree with the statement.

As the high price for the purchase of TSPC farmers refuses to purchase it

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 72.85 percent of them had agree about as the high price for the purchase of TSPC farmers refuses to purchase it, followed by 18.57 percent of the respondent had undecided and 08.57 percent of the respondents had disagree with the statement.

Use of TSPC increases farmers income

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 70 percent of them had agree about Use of TSPC increases farmers income, followed by 17.14 percent of the respondent had undecided and 12.85 percent of the respondents had disagree with the statement.

It is possible to increase the size of TSPC as per the required.

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 55.71 percent of

them had agree about It is possible to increase the size of TSPC as per the required, followed by 38.57 percent of the respondent had undecided and 5.71 percent of the respondents had disagree with the statement.

Using TSPC turmeric growers will be able to start entrepreneurship.

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 80 percent of them had agree about Using TSPC turmeric growers will be able to start entrepreneurship, followed by 15.71 percent of the respondent had undecided and 4.28 percent of the respondents had disagree with the statement.

Using TSPC it is possible to improve qualitative characteristics of the produce

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 72.85 percent of them had agree about Using TSPC it is possible to improve qualitative characteristics of the produce, followed by 18.57 percent of the respondent had undecided and 8.57 percent of the respondents had disagree with the statement.

The turmeric rhizomes cooked using conventional method gives same production as given by using TSPC.

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 25.71 percent of them had agree about Use of TSPC cooks turmeric rhizomes uniformly, followed by 34.28 percent of the respondent had undecided and 40 percent of the respondents had disagree with the statement.

Using TSPC gives good quality turmeric powder so it gives good rate for produce

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 70 percent of them had agree about Using TSPC gives good quality turmeric powder so it gives good rate for produce, followed by 22.85 percent of the respondent had undecided and 7.14 percent of the respondents had disagree with the statement.

Using TSPC it is possible to get uniform colour to the turmeric powder

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 70 percent of them

had agree about Using TSPC it is possible to get uniform colour to the turmeric powder, followed by 15.71 percent of the respondent had undecided and 14.28 percent of the respondents had disagree with the statement.

Extra income should be achieved by giving TSPC to other farmers on rent

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 81.42 percent of them had agree about Extra income should be achieve by giving TSPC to other farmers on rent, followed by 14.28 percent of the respondent had undecided and 4.28 percent of the respondents had disagree with the statement.

Use of TSPC not hazardous to environment

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 13.57 percent of them had agree about Use of TSPC not hazardous to environment, followed by 32.14 percent of the respondent had undecided and 54.28 percent of the respondents had disagree with the statement.

Turmeric growers are aware about the government's subsidies for purchase of TSPC

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 49.28 percent of them had agree about Turmeric growers are aware about the governments subsidies for purchase of TSPC, followed by 16.42 percent of the respondent had undecided and 34.28 percent of the respondents had disagree with the statement.

Pressure maintenance is possible in TSPC, which helps in quality improvement

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 53.57 percent of them had agree about Pressure maintenance is possible in TSPC, which helps in quality improvement, followed by 36.42 percent of the respondent had undecided and 10 percent of the respondents had disagree with the statement.

TSPC is easily mounting on tractor helps in handling properly

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 72.14 percent of them had agree about TSPC is easily mounting on tractor helps in handling properly, followed by 26.42 percent of the respondent had undecided and 1.42 percent of the respondents had disagree with the statement.

For turmeric cooking use of TSPC is risky

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 54.28 percent of them had agree about for turmeric cooking use of TSPC is risky, followed by 34.28 percent of the respondent had undecided and 11.42 percent of the respondents had disagree with the statement.

TSPC is useful mostly to the big turmeric growers

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 86.42 percent of them had agree about TSPC is useful mostly to the big turmeric growers, followed by 12.14 percent of the respondent had undecided and 1.42 percent of the respondents had disagree with the statement.

TSPC will not make loss because it shows indication after rhizomes cooked successfully

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 53.57 percent of them had agree about TSPC will not make loss because it shows indication after rhizomes cooked successfully, followed by 34.28 percent of the respondent had undecided and 12.14 percent of the respondents had disagree with the statement.

TSPC saves the fuel, because of high efficiency

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 62.14 percent of them had agree about TSPC saves the fuel, because of high efficiency, followed by 29.28 percent of the respondent had undecided and 8.57 percent of the respondents had disagree with the statement.

Presence of safety valve and thickness of TSPC always protects its structure

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 50 percent of them had agree about Presence of safety valve and thickness of TSPC always protects its structure, followed by 45 percent of the respondent had undecided and 5 percent of the respondents had disagree with the statement.

Because of TSPC turmeric growers acts enthusiastically and it forces them to high production

The results regarding respondents according to their perception of turmeric growers towards Steam Pressure Cooker in [Table-3] indicated 65.71 percent of them had agree about Because of TSPC turmeric growers acts enthusiastically and it forces them to high production, followed by 23.57 percent of the respondent had undecided and 10.71 percent of the respondents had disagree with the statement.

Table-4 Relationship between Personal, Socio-economic, Communicational and Psychological Characteristics of Turmeric growers with their Perception

SN	Independent variables	Correlation coefficient (r)
1.	Age	-0.112 ^{NS}
2.	Education	0.314 ^{**}
3.	Size of family	0.571 ^{**}
4.	Size of land holding	0.247 ^{**}
5.	Annual income	0.326 ^{**}
6.	Experience in turmeric cultivation	0.279 ^{**}
7.	Marketing behavior	0.198 [*]
8.	Innovativeness	0.202 ^{**}
9.	Scientific orientation	0.341 ^{**}
10.	Extension contact	0.299 ^{**}
11.	Area under turmeric	0.175 [*]

** = Significant at 1 percent level of probability, * = Significant at 5 percent level of probability

It is concluded from [Table-4] that the selected variables viz., Education, Family Size, Land Holding, Annual Income, Farming Experience, Marketing Behaviour, Innovativeness, Scientific Orientation, Extension Contact, Area under turmeric, Varietal Preference were in positive and significant relationship with perception. Whereas, the variable age had negative and non-significant relationship with the perception. These findings are in line with those of Suder and Ramkrishna (2013), Dobariya, *et.al.* (2017).

Conclusion

It was observed that majority of the turmeric growers had moderately favourable to highly favourable perception towards University Recommended Steam Pressure Cooker. Furthermore, majority of them were satisfied with the University Recommended Steam Pressure Cooker and urge to continue adoption for the turmeric boiling process while turmeric processing.

Application of research

Turmeric growers may use it for the future use to produce more quality production from turmeric cultivation.

Research Category: Agriculture Extension & Communication

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Author Contributions: All authors equally contributed

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Study area / Sample Collection: Sangli, Maharashtra

Cultivar / Variety / Breed name: Turmeric

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References

- [1] Bhati N.K., Upadhyay R. and Upadhyay B. (2014) *Ind J. Extn. Educ. & R.D.*, (22), 153-155.
- [2] Deeksha K. and Sachan H.K. (2016) *Int. J. of Res. in Applied, Natural and Social Sci.*, 4(11), 185-190.
- [3] Dheeraj M. and Kalyan G. (2015) *Indian J. Agric. and Allied Sci.*, 1(2), 26-28.
- [4] Kangale P.D. and Deshmukh A.N. (2016) *International Research Journal of Agriculture Economics and Statistics*, 7(2), 248-250.
- [5] Dobariya J. B., Thesiya N. M. and Desai V. K. (2017) *Guj. J. Ext. Edu.*, 28(1), 28-32.
- [6] Suder and Ramkrishna L. (2013) *International Journal of Business and Management of Invention*, 2(1), 48-54.