



FACTORS INFLUENCING THE KNOWLEDGE LEVEL OF THE TOMATO GROWERS IN CHITTOOR DISTRICT OF ANDHRA PRADESH

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ABSTRACT

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The present investigation was carried out in Chittoor district of Andhra Pradesh state during 2016-17 to assess the various factors influencing the knowledge level of tomato growers. A total of 120 respondents were selected by following simple random sampling. The results of the study revealed that 61.67 per cent of the farmers were having medium knowledge levels followed by low (24.17%) and high (14.16%) levels. The profile characteristics *viz.*, education, farm size, annual income, extension contact, mass media exposure, scientific orientation, risk orientation, management orientation, innovativeness and achievement motivation were found positively significant with the knowledge level of respondents regarding tomato cultivation. Further, all the selected 14 independent variables put together explained about 66.50 per cent variation in the level of knowledge of tomato growers.

KEYWORDS: Knowledge level, Tomato cultivation, Tomato growers.

INTRODUCTION

Tomato is well known and very popular vegetable grown successfully throughout India. Tomato ranks third in priority after potato and onion in India but ranks second after potato in the world. Andhra Pradesh is producing about 36 per cent of tomatoes in the country and is the leading producer of tomato involving a production of 1473.5 thousand metric tones from an area of 54.2 thousand hectares with productivity of 27.2 Mt/ha (Anonymous, 2016). Tomato is an important vegetable crop grown in Chittoor District.

Knowledge is an indispensable criterion for the adoption of any innovation, as it enables the farmers to understand completely and clearly the recommended cultivation practices. The rate of adoption of an innovation is directly linked with level of knowledge of the respondents. Hence, it was felt necessary to know the knowledge level of the respondents on recommended cultivation practices. Hence, the present study was carried out with an objective to find out the personal socio-economic and psychological factors influencing the knowledge level of tomato growers about the production aspects of tomato.

MATERIALS AND METHODS

The present study was carried out during 2016-17 in Chittoor District of Andhra Pradesh. Chittoor district of Andhra Pradesh was purposively selected as tomato is extensively cultivated in the district. Out of 66 mandals of Chittoor district, three mandals *viz.*, Kurabalakota, Molakalacheruvu and Gurrampakonda were purposively selected based on the highest area under tomato cultivation. Four villages from each Mandal were selected proportionally or randomly for the study. From each selected village ten farmers were selected by following simple random sampling method. Thus, a total number of 120 respondents were selected for the study.

Further, in order to study the combined effect of all the independent variables in explaining variation in knowledge level of the tomato growers on recommended cultivation practices, Multiple Linear Regression (MLR) analysis was carried out. The computed co-efficient of determination (R^2) value and partial regression co-efficient (b) The R^2 and 'b' values were tested statistically for their significance.

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RESULTS AND DISCUSSION

Overall knowledge level of tomato growers on recommended cultivation practices

After assessing the knowledge level, the respondents were categorized into three groups viz., low, medium and high by using mean and standard deviation and the results were presented in Table 1.

The results in the Table 1 revealed that 61.67 per cent of the participant farmers were having medium level of knowledge, followed by low (24.17%) and high (14.16%) levels of knowledge.

The probable reason for this trend might be that medium levels of mass media exposure, extension contact, scientific orientation and low marketing facilities and credit orientation of majority of the respondents might be the factors restrict the knowledge level of farmers to medium level inspite of their good level of education. Diversion of attention to subsidiary occupations might also be reducing their opportunities to acquire knowledge. Extension agencies must concentrate on encouraging young and middle aged farmers also indulging in farming activities, taking all farmers to research stations and demonstration plots, imparting them frequent trainings and inspiring them to have more extension contact and mass media exposure so that farmers will improve their knowledge about recommended package of practices. Similar findings were reported by Roy and Rekha (2012).

Correlation analysis between the selected profile characteristics and the level of knowledge of tomato growers on recommended tomato cultivation practices

The data presented in the Table 2 clearly indicates that the characteristics such as education, farm size, annual income, extension contact, mass media exposure, scientific orientation, risk orientation, management orientation, innovativeness and achievement orientation found to have positive and significant relationship with knowledge level of tomato growers. Whereas age and farming experience found to have negative and significant relationship with the knowledge level of tomato growers. Marketing facilities and credit orientation found to have negative and non-significant relationship with knowledge level of tomato growers.

A perusal of data indicated that education of the respondents had a positive and significant relationship with their knowledge level. The probable reason for this

type may be due to the fact that educated farmers with more information seeking habits and better access to farm information sources such as farm magazines, farm bulletins, books on agriculture etc., and possess better capacity to grasp information and analyse and interpret them in proper ways. Educated people have more exposure to extension agencies, scientists and research stations etc., This finding was in agreement with the findings of Ramu (2005).

Farm size had a positive and significant relationship with the knowledge level of tomato growers. This might be due to the fact that large farms with availability of sufficient resources allow farmers to try new innovations for which they will seek more information from various sources leading to increase in the knowledge level Sivanandhan (2002).

The possible reason for the positive and significant relationship between annual income and knowledge level of the tomato growers was the farmers with higher income are highly accessible to the new technologies and gather maximum information about the latest cultivation practices.

There was a positive and significant relationship between extension contact and knowledge level of the tomato growers. The probable reason attributed for this type of relation might be due to the fact that extension agencies are the more accessible sources of information for the respondents. Hence, respondents who have got more contact with extension agencies will have more knowledge about the tomato cultivation. This trend was supported by Obaiah (2004).

The data indicated that there was a positive significant relationship between mass media exposure and knowledge level of the tomato growers. The probable reason for this might be due to the fact that mass media exposure enhances the farmer's knowledge as these serve as the accelerators for diffusion of agricultural innovations. Farmers who are in constant touch with mass media are likely to have better knowledge. Similar findings were observed by Roy *et al.* (2007).

There was a positive and significant relationship between scientific orientation and knowledge level of the tomato growers. The probable reason attributed for this type of relation might be due to the fact that the farmers with good scientific orientation will prefer to know about the innovative technologies. This result were in line with the conclusions of Kumar (2004).

Table 1. Distribution of respondents according to their overall level of knowledge**N=120**

S. No.	Level of knowledge	Frequency	Percentage
1.	Low	29	24.17
2.	Medium	74	61.67
3.	High	17	14.16
Total		120	100.00
		Mean: 29.10	SD: 3.46

Table 2. Correlation coefficients between the selected profile characteristics with the knowledge level of the tomato growers**(N=120)**

Variable No.	Independent Variables	Correlation co-efficients ('r' values)
X ₁	Age	-0.200*
X ₂	Education	0.725**
X ₃	Farming experience	-0.273**
X ₄	Farm size	0.285**
X ₅	Annual income	0.274**
X ₆	Extension contact	0.715**
X ₇	Mass media exposure	0.693**
X ₈	Marketing facilities	-0.018NS
X ₉	Scientific orientation	0.559**
X ₁₀	Risk orientation	0.590**
X ₁₁	Credit orientation	-0.150NS
X ₁₂	Management orientation	0.709**
X ₁₃	Innovativeness	0.720**
X ₁₄	Achievement motivation	0.626**

* Significant at 0.05 level of probability

** Significant at 0.01 level of probability

NS Non significant

Table 3. Multiple Linear Regression analysis of the selected independent variables with the knowledge level of the tomato growers

S. No.	Variable Number	Independent variables	Partial regression coefficients (b)	Computed 't' values
1.	X ₁	Age	-0.018	-0.288 ^{NS}
2.	X ₂	Education	0.020	0.166 ^{NS}
3.	X ₃	Farming experience	-1.228	-0.744 ^{NS}
4.	X ₄	Farm size	1.714	3.503 ^{**}
5.	X ₅	Annual income	0.294	1.242 ^{NS}
6.	X ₆	Extension contact	0.189	3.194 ^{**}
7.	X ₇	Mass media exposure	-0.003	-0.841 ^{NS}
8.	X ₈	Marketing facilities	-0.107	0.340 ^{NS}
9.	X ₉	Scientific orientation	0.097	0.420 ^{NS}
10.	X ₁₀	Risk orientation	0.828	2.830 ^{**}
11.	X ₁₁	Credit orientation	0.308	1.277 ^{NS}
12.	X ₁₂	Management orientation	0.593	1.984 [*]
13.	X ₁₃	Innovativeness	0.258	1.897 ^{NS}
14.	X ₁₄	Achievement motivation	0.333	1.966 [*]

The results indicated that there was a positive and significant relationship between risk orientation and knowledge level of the tomato growers. The probable reason for this might be due to the fact that a farmer who wants to take risk in cultivating crops will try to develop his knowledge with regard to the crop and its cultivation practices. Similar result was observed by Kumar (2002).

Management orientation had a positive and significant relationship with the knowledge level of tomato growers. This might be due to the fact that farmers being good in management orientation with regard to planning, production and marketing will try to gather maximum information about the cultivation and marketing aspects of the crop. This naturally leads to increased level of knowledge. Similar observations were made by Kumar (2002).

The possible reason for the positive and significant relationship between innovativeness and knowledge level of the tomato growers was that an individual with high innovativeness desires to seek changes in farming by adopting the latest technologies. This result was in accordance with the results of Gopinath (2005)

The data indicated that there was a positive and significant relationship between achievement motivation and knowledge level of the tomato growers. The probable reason for this might be due to the fact that achievement motivation forces an individual to work constantly towards reaching a goal, which he carves for himself and in this process he acquires great amount of knowledge. This result has support from the conclusions of Kumar (2004).

Age had a negative and significant relationship with the knowledge level of tomato growers. This might be due to the fact that old age farmers having poor contacts with extension agents like Mandal horticulture officers, agricultural extension officers etc..

Farming experience had a negative and significant relationship with the knowledge level of tomato growers. This might be due to the fact that large farms with availability of sufficient resources allow farmers to try new innovations for which they will seek more information from various sources leading to increase in the knowledge level. This result was supported by the conclusion of Gattu (2001).

The 'R²' value of 0.665 depicted that all the selected fourteen independent variables put together explained about 66.50 per cent variation in the level of knowledge of tomato growers about recommended cultivation practices. The partial regression coefficients presented in Table 3 further reveals that the independent variables *viz.* farm size, extension contact, risk orientation, management orientation and achievement motivation were found positively significant. This implied that farm size, extension contact, risk orientation, management orientation and achievement motivation contributed to most of the variation in the knowledge level of tomato growers.

CONCLUSION

From this study it was concluded that the profile characteristics *viz.*, education, farm size, annual income, extension contact, mass media exposure, scientific orientation, risk orientation, management orientation, innovativeness and achievement motivation were found to be positively significant with the knowledge level of respondents regarding tomato cultivation. Hence, target oriented training programmes have to be formulated to enhance the knowledge level of tomato growers.

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