

## Factors influencing the adoption of recommended package of practices by pepper growers of Wayanad district, Kerala

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Received: 15.9.2018/Accepted: 31.10.2018

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### ABSTRACT

The study was aimed at accessing the relationship between the profile of the farmers with their adoption level on recommended package of practices on pepper cultivation. The study was conducted in Panamaram block of Wayanad district in Kerala and proportionate random sampling was employed to select the sample size of 120 members from the selected three villages of the block. It was observed that the factors viz educational status, farm size, area under pepper cultivation, income, social participation, extension agency contact, mass media exposure, innovativeness, trainings undergone, market decision and market potential showed positive and significant correlation at one per cent level of probability and market perception showed positive and significant correlation at five per cent level of probability towards adoption level. Results revealed that one unit increase in the independent variables viz farm size, extension agency contact and market decision increased the adoption level by 2.549, 1.033 and 1.159 units respectively.

**Keywords:** Pepper; adoption; package of practices; cultivation

### INTRODUCTION

Black pepper (*Piper nigrum* L) has been an important agricultural commodity in India since pre-historic period. It is the most important and most widely used spice in the world. Pepper is a woody climber grown in the southwestern region of India comprising the states of Kerala, parts of Karnataka, Tamil Nadu and Goa, the entire region once known as Malabar a name now used restrictively to mean only the northern part of Kerala. The humid tropical evergreen forests bordering the Malabar coast (the Western Ghats, one of the hot spot areas of plant biodiversity on earth) is the centre of origin and diversity of pepper. The Malabar coast was involved in the cultivation and trade of pepper from very early times. From here pepper was taken to Indonesia, Malaysia and subsequently to other pepper growing countries.

India is one of the major producers, consumers and exporters of black pepper in the world. It is a plant of humid tropics requiring high rainfall and humidity. The hot and humid climate of sub-mountainous tracts

of Western Ghats is ideal for its cultivation. In India Karnataka and Kerala are the major pepper producing states. India's domestic demand for pepper is anticipated at 45000 ton per annum (Yogesh and Mokshapathy 2013).

A majority of the cultivated types of black pepper is monoecious (male and female flowers found in the same spike) though variation in sex expression ranging from complete male to complete female is found. Over 75 cultivars of black pepper are being cultivated in India. Karimunda is the most popular cultivar in Kerala (Thomas and Rajeev 2015).

Vietnam is the world's largest pepper producer boasting a market share of 34.5 per cent of world's total pepper production. Vietnam's pepper production in 2013 was 163000 ton having a mere 51000 hectare of pepper production area. Vietnam's pepper production area is smaller than that of Indonesia and India. It shows that the productivity of Vietnam's pepper production area is very high ie 3.2 ton per hectare (Anon 2016).

Improved levels of adoption might have contributed India to the pepper production. Thus there is need to study the factors influencing pepper cultivation practices so that appropriate strategies could be designed to further improve the production levels.

## METHODOLOGY

The study was conducted in Wayanad district of Kerala as it is one of the districts having maximum area under pepper cultivation. Out of the four blocks in Wayanad, Panamaram block consisting of nine villages was selected. The sample was delineated further where three villages namely Irulam, Padichira and Pulpally were purposively selected for the study considering maximum area under pepper cultivation.

A sample of 120 farmers was selected using proportionate random sampling technique. Fifteen factors viz age, educational status, occupational status, farm size, area under pepper cultivation, farming experience in pepper cultivation, annual income, social participation, extension agency contact, mass media exposure, innovativeness, trainings undergone, market perception, market decision and market potential found to influence adoption were considered for the study. Data were collected through a well-structured and pre-tested interview schedule. The statistical tools such as percentage analysis, mean and standard deviation,

simple correlation and multiple regression were used to analyse the data.

## RESULTS and DISCUSSION

Data given in Table 1 show that variables viz educational status ( $X_2$ ), farm size ( $X_4$ ), area under pepper cultivation ( $X_5$ ), income ( $X_7$ ), social participation ( $X_8$ ), extension agency contact ( $X_9$ ), mass media exposure ( $X_{10}$ ), innovativeness ( $X_{11}$ ), trainings undergone ( $X_{12}$ ), market decision ( $X_{14}$ ) and market potential ( $X_{15}$ ) had positive and significant correlation at one per cent level of probability and market perception ( $X_{11}$ ) showed positive and significant correlation at five per cent level of probability. Remaining three variables did not show any significant association with adoption level of pepper growers.

Multiple regression analysis was taken up to find out contribution of independent variables to the adoption level of respondents. The  $R^2$  value was 0.500 which showed that all variables contributed to 50.00 per cent of variation in the adoption level among the respondents. Therefore the equation was worked out and is given as under:

$$Y_1 = 53.810 - 0.024(X_1) + 0.287(X_2) + 0.125(X_3) + 2.549(X_4) - 0.050(X_5) - 0.134(X_6) - 0.00001268(X_7) + 1.169(X_8) + 1.033(X_9) + 0.287(X_{10}) + 0.489(X_{11}) + 1.526(X_{12}) + 0.186(X_{13}) + 1.159(X_{14}) - 0.136(X_{15})$$

Table 1. Relationship of profile of the farmers with adoption level of recommended technologies

S/N	Variable	r-value	Regression coefficient	Standard error	t-value
$X_1$	Age	-0.101	-0.024	0.078	-0.310 <sup>NS</sup>
$X_2$	Educational status	0.278**	0.287	0.439	0.655 <sup>NS</sup>
$X_3$	Occupational status	-0.075	0.125	0.475	0.262 <sup>NS</sup>
$X_4$	Farm size	0.340**	2.549	1.204	2.116*
$X_5$	Area under pepper cultivation	0.286**	-0.050	0.463	-0.108 <sup>NS</sup>
$X_6$	Experience	-0.059	-0.134	1.192	-0.113 <sup>NS</sup>
$X_7$	Income	0.342**	-0.00001268	0.000	-1.120 <sup>NS</sup>
$X_8$	Social participation	0.547**	1.169	0.641	1.824 <sup>NS</sup>
$X_9$	Extension agency contact	0.454**	1.033	0.487	2.123*
$X_{10}$	Mass media exposure	0.278**	0.287	0.439	0.655 <sup>NS</sup>
$X_{11}$	Innovativeness	0.387**	0.489	1.158	0.423 <sup>NS</sup>
$X_{12}$	Trainings undergone	0.540**	1.526	0.820	1.862 <sup>NS</sup>
$X_{13}$	Market perception	0.218*	0.816	0.562	1.452 <sup>NS</sup>
$X_{14}$	Market decision	0.454**	1.159	0.464	2.498*
$X_{15}$	Market potential	0.593**	-0.136	0.256	-0.530 <sup>NS</sup>

\*Significant at five per cent level, \*\*Significant at one per cent level, NS: Non-significant,  $R^2 = 0.500$ ,  $F = 7.490$

The results indicated that the variables viz farm size ( $X_4$ ), extension agency contact ( $X_9$ ) and market decision ( $X_{14}$ ) had positive and significant correlation at five per cent level of probability.

It was observed that one unit increase in the independent variables viz farm size ( $X_4$ ), extension agency contact ( $X_9$ ) and market decision ( $X_{14}$ ) increased the adoption level by 2.549, 1.033 and 1.159 units respectively.

Since pepper had more importance in the study area, farm size ( $X_4$ ) showed positive and significant correlation with adoption level. Due to the need for technological guidance to understand the scientific cultivation practices of pepper, the extension agency contact ( $X_9$ ) among the farmers also had a positive and significant correlation with adoption level. The findings are in line with the findings of Venkatesan (2000).

The correlation of market decision ( $X_{14}$ ) with adoption level was found to be positive and significant which could be due to the knowledge that farmers obtained through high level of experience in pepper cultivation.

## CONCLUSION

It can be concluded from the study that the variables viz farm size, extension agency contact and market decision had positive and significant correlation with adoption level of pepper cultivation. Hence increase in these variables would increase the adoption level. Therefore appropriate extension strategies can be designed to improve the adoption level of the respondents in pepper cultivation in the study area.

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