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ASSOCIATION BETWEEN INDEPENDENT VARIABLES AND TRAINING NEEDS OF VEGETABLE GROWERS IN VEGETABLES CULTIVATION TECHNOLOGY

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ABSTACT

In state of Haryana vegetables cultivation play a very important role in agricultural operations dueto several unique factors like options for diversification to rice-wheat cropping system and high market potential in the state itself as well as metropolitan market Delhi and Chandigarh. The present study was undertaken in four districts of Haryana to assessthe training needs of vegetable growers in vegetable cultivation technology and finds the association between independent variables and training needs. From four selected districts total 160 vegetable growers were interviewed with the help of well structured interview schedule. It was assessed that vegetable growers most needed training in areas like disease and IPM, knowledge of improved varieties, seed treatment, spacing, and weed control, marketing, package of practices, management of fertilizers, quality improvement andnursery raising.The study further indicated that age, education, occupation, social participation, extension agency contact, mass media exposure, locus of control, risk taking willingness, attitude towards vegetable cultivation and adoption propensity significantly correlated with the training needs of vegetable growers about improved vegetable production technology.

KEYWORDS: Training Needs, Plant Protection, Vegetable Protection Technology

INTRODUCTION

Agriculture plays an important role in Indian economy. Whereas vegetables play a important role in agriculture as most remunerative agricultural activity for small and marginal farmers and also a vital aspect of nutritional security. Growing of vegetables is 4 to 8 times more remunerative than cereals and it also generate employment in the rural areas. Average productivity of vegetable crops in Haryana is very low and far from the national average yield of 154. 6 q/ha. But there is gap between the current production and potential productivity of vegetable crops. Vegetable production, like all other aspects of primary production, requires a wide range of skills. Some of these skills, for example, are harvesting at the correct stage of maturity, at first sight appear to be simple, but in many cases are only acquired by experience and training. Other key areas of expertise include using appropriate sowing (or planting) dates, correct plant spacing, fertilizer rates, choice of site, weed control, irrigation strategy, pest and disease management, marketing, etc. Thus, for getting higher quality and productivity of vegetable crops farmers requires skills and knowledge about scientific cultivation practices. It has been proved through various impact studies that the production and productivity of vegetables can be increased many times by adopting scientific technologies including use of high yielding varieties. Information on training needs will help to formulate the training courses in vegetable production technology. Well planned and comprehensive study to gather the

desired information was felt necessary. Hence various important practices involved in vegetable production technology like improved variety, seed treatment, seed rate, sowing time, nursery raising, spacing, use of organic manures, management of fertilizers, irrigation, intercultural operations, weed control, disease and IPM, harvesting, quality improvement, package of practices and marketing were included in the study. The training needs and knowledge gap of the various practices were measured using tools specially design for the study. And attempts have also been made to find out the association of various independent variables with training needs with view to identify their significance.

RESEARCH METHODOLOGY

The present study was conducted in four districts of Haryana vegetable cultivation. Four districts of Haryana namely, Sonipat, Faridabad, Rewari and Jhajjar, were selected and two blocks each from these districts were selected randomly. Two villages from each block were randomly selected, making a total of 16 villages. From this selected villages 10 vegetable growers were randomly selected for the study. Collection of data was accomplished by supplying the well-structured schedule from vegetable growers. As the study was aimed to measure level of training needs and association between independent variable i.e.training needs. The tool consisted of 16 statements on training needs of vegetable growers in vegetable cultivation covering various aspects like improved variety, seed rate, seed treatment, sowing time, nursing raising, transplanting and spacing, use of organic manures, use of fertilizers, irrigation, intercultural operation, weed control, diseases & IPM, harvesting, quality improvement, package of practices and marketing was developed. The responses of vegetable growers were recorded on 3 point continuum i.e. most needed, somewhat needed and least needed with weight-age of 3, 2 and 1, respectively. The association between independent variables and training needs was analyzed with correlation and regression with the help of SPSS software.

RESULTS AND DISCUSSIONS

Training needs of Vegetable growers: The training needs of vegetable growers in various aspects of vegetable cultivation technology were assessed with the scale of 3 point continuum i.e. most needed, somewhat needed and least needed with weight-age of 3, 2 and 1, respectively. Mean score of the training needs obtained for different aspects are presented in Table-1. Most of the vegetable growers felt that they needed training in the area of diseases and IPM with the mean score of (2.31) followed by improved varieties, seed treatment, transplanting and spacing, weed control, marketing, package of practices, management of fertilizers, quality improvement, and nursery raising with the mean score of 2.28, 2.19, 2.11, 2.04, 1.90, 1.80, 1.86, 1.82and 1.75 respectively. The least training needs preferred practices were sowing time (1.42), harvesting (1.57), seed rate (1.54), intercultural operations (1.60), irrigation (1.61) and use of organic manures (1.70). These findings are accordance with the findings reported by Rajput et al. (2005) and Bhagat and Nain (2005).

Table 1: Training Needs of Vegetable Growers in Vegetable Cultivation Technology

Sr. No.	Vegetable Cultivation Practices	Training Needs			Total Obtained (Scores)	Knowledge Gap Percentage	Ranks
		Most Needed	Some-What Needed	Least Needed			
1.	Improved/Hybrid variety	81	41	40	365	2.28	II
2.	Seed treatment	75	41	44	351	2.19	III
3.	Seed rate	20	47	93	247	1.54	XIV
4.	Sowing time	16	36	108	228	1.42	XVI
5.	Nursery raising	40	40	80	280	1.75	X

6.	Transplanting & Spacing	71	37	74	339	2.11	IV
7.	Use of organic manures	32	48	80	272	1.7	XI
8.	Management of fertilizers	55	31	72	299	1.86	VIII
9.	Irrigation	28	43	89	259	1.61	XII
10.	Intercultural operation	24	48	88	286	1.60	XIII
11.	Weed control	67	33	60	327	2.04	V
12.	Diseases and IPM	83	45	32	371	2.31	I
13.	Harvesting	16	44	100	236	1.47	XV
14.	Quality improvement	48	36	76	292	1.82	IX
15.	Package of practices	52	36	72	300	1.8	VII
16.	Marketing	63	29	68	315	1.9	VI

Relationship of socio-economic and socio-psychological variables with training needs of vegetable growers: The correlation coefficient was computed to know the existence of relationship between the various characteristics of vegetable growers and their training needs in vegetable cultivation. The data depicted in Table 2 show that, among 17 characteristics studied 10 characteristics, namely, age, education, occupation, social participation, extension agency contact, mass media exposure, locus of control, risk taking willingness, attitude towards vegetable cultivation and adoption propensity were found to have positive and significant correlation with training needs at 0.01 level of probability. Whereas family income, economic status and achievement motivation showed positive and non-significant relationship

Age had a negative and significant relationship with training needs at 0.01 level of probability. While the family type, family size and caste were negative and non-significantly related with training needs. Education had a positive and significant relationship with training needs. It means, as the education level of the farmers increased, the training needs also increased. It is due to the fact that more educated farmers are aware about the importance of training and they want to learn skills involved in advanced vegetable cultivation. The findings of the present study are consistent with the findings of Garav and Kamble (1995) and Rajput *et al.* (2007).

The training need increases with the increase in social participation, extension agency contact and mass media participation due to the fact that as the participation in social organization, extension activities and mass media increases the exposure to modern and up to date technologies is more and there-by awareness for training needs in the vegetable cultivation are high. This result is in agreement with the findings of Ingole *et al.* (1993) and Rajput *et al.* (2007).

As adoption propensity, attitude towards vegetable cultivation and locus of control increase the training needs also increase. These variables indicate favourable direction of having positive attitude towards adoption innovation for getting more production and earning high profits. The necessity of economic prosperity motivates farmers for acquiring various skills for earning more by utilizing available resources.

**Table 2: Relationship of Socio-Economic and Socio-Psychological Variables With
Training Needs of Vegetable Growers in Vegetable Cultivation Technology**

S. No	Independent Variables	R Value
1.	Age	-.226**
2.	Caste	0.480

3.	Education	0.468**
4.	Family type	-0.110
5.	Family size	-0.850
6.	Family income	0.134
7.	Occupation	0.280**
8.	Economic status	0.570
9.	Resources mobilization potentiality	0.760
10.	Social participation	0.204**
11.	Extension agency contact	0.443**
12.	Mass media exposure	0.504**
13.	Achievement motivation	0.840
14.	Locus of control	-0.241**
15.	Risk taking willingness	-0.375**
16.	Adoption propensity	0.371**
17.	Attitude towards vegetable farming	0.492**

** Correlation is significant at 0.01 levels

Table 3: Multiple Linear Regression Analysis of Selected Independent Variables with Training Needs in Vegetable Cultivation Technology

S. No.	Independent Variables	Regression Coefficient
1.	Age	-0.194**
2.	Education	-0.010
3.	Occupation	0.086
4.	Economic status	0.085
5.	Resources mobilization potentiality	-0.030
6.	Social participation	-0.019
7.	Extension contact	0.004
8.	Mass media exposure	0.150
9.	Achievement motivation	0.093
10.	Locus of control	-0.067
11.	Risk taking willingness	0.099
12.	Adoption propensity	0.152*
13.	Attitude towards vegetable farming	0.138*

Significant at *P = 0.05 and **P = 0.01 levels respectively. $R^2 = 0.444$

Multiple linear regression analysis of the characteristics of vegetable growers with training needs in vegetable cultivation technology: The method of multiple linear regression analysis (Table 3) was used for predicting the relative contribution of independent variables to influence the dependent variables i.e. training needs. All the selected socio-economic and socio-psychological variables were subjected to multiple linear regression analysis. The coefficient of determination (R^2) revealed that 44.40 per cent of the variation in the training need was explained by the variables.

Out of all the selected variables, three variables were found to be significant. Age showed negative but significant relationship at 0.01 level of probability. That means respondents with lower age were highly oriented towards training in

advanced vegetable cultivation. Similarly, the adoption propensity and attitude towards vegetable cultivation were also found to be significant at 0.05 level of probability. Vegetable growers had favourable attitude and hence showed high interest in training needs for advance vegetable cultivation technology. Similarly, vegetable growers young in age had high adoption propensity and better attitude were more active and better motivated to learn new skills in order to improve their living conditions. Similar finding are reported by Rajput *et al*. (2007).and Venkataramulu (2010).

CONCLUSIONS

It can be concluded from the investigation that majority of the vegetable growers had expressed their need for training in vegetable cultivation technology. It can be concluded that majority of vegetable growers gave highest emphasis of training needs on diseases and IPM, seed treatment, transplanting and spacing, weed control, marketing, package of practices and management of fertilizers in order, respectively. So, while preparing training programmes for vegetable growers aspects identified in the study should be focused on priority basis. Such type of need based training programmes will help them to increase the production and productivity of vegetable crops in sustainable way. Further, extension agencies and change agents should also concentrate on major areas, identified in this study. From multiple linear regression analysis of independent variables like age (negative but significant relationship), adoption propensity and attitude towards vegetable cultivation showed significant relationship which gives the better understanding of background variables affecting the training needs of vegetable growers.

REFERENCES

1. Bhagat, G.R. and Nain, M.S. (2005). Training needs of farmer in Shivalik hills of Jammu and Kashmir. *Indian Research Journal of Extension Edcation***5** (2&3):44-46.

2. Garav, K.V., and Kamble, L.P. (1995).Training Needs of Rural Women.*Maharashtra Journals of Extension Education* **14:** 93-96.

3. Ingole, P. G., Dakhore, K. M., and Dikle, R. N. (1993). Training needs of dairy farmers. *Maharashtra Journal of Extension Education* **12**: 271-274.

4. Rajput, H. D., Supe, S. V., and Chinchmalatpure, U. R. (2007). Farmers Training Needs on *Bt*. Cotton Technology. Indian Research Journal of Extension Education **(1)**: 14-16.

5. Rajput, J.S., Latoria, S.K., Sharma, P. and Kakran, M.S. (2005). Training needs of farm women in KVK *Indian Research Journal of Extension Edcation***5** (2&3): 108-109.

6. Venkataramulu, M. and Ram, B. (2010).Training needs of rythumitra group member in Bt. cotton cultivation.*Indian Journal of Extension Education***46** (3&4): 102-106.