DOI: 10.15740/HAS/AU/13.4/405-407 *Agriculture Update*
Volume **13** | Issue 4 | November, 2018 | 405-407
Visit us : *www.researchjournal.co.in*
ISSN-0973-1520

RESEARCH ARTICLE :

Relationship between profile characteristics and knowledge of IPM practices in cabbage

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ARTICLE CHRONICLE :
Received :
23.08.2018;
Revised :
21.09.2018;
Accepted :
06.10.2018

SUMMARY : The study was an "expost-facto" research carried out in Belagavi and Haveri districts of Karnataka State during the year 2017- 18. Three taluks were selected from each district based on the highest area. The total sample size was 150. Variables such as age, family size, social participation, scientific orientation, economic motivation were not significantly related with knowledge about IPM practices. Variables such as education, cabbage farming experience, annual income, extension contact and mass media exposure have positive significant relationship at one per cent level of significance. Farm resource base was positively and significantly related with knowledge about IPM practices at 5 per cent level of significance.

How to cite this article : Girish, D. and Halakatti, S.V. (2018). Relationship between profile characteristics and knowledge of IPM practices in cabbage. *Agric. Update*, **13**(4): 405-407; **DOI : 10.15740/HAS/AU/13.4/405-407.**

KEY WORDS :
Integrated pest management (IPM), Farm resource base

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BACKGROUND AND OBJECTIVES

Cole crops which include cabbage, cauliflower, knol-khol etc. are the most abundantly consumed vegetables all over the world. They belong to the genus *Brassica* of the family Brassicaceae. This group includes a wide variety of vegetable crops. Cabbage [*Brassica oleracea* (L.) var. capitata] is one of the most important group of vegetable crops and commonly cultivated in winter (Anonymous, 2016).

Karnataka produces about 2.4 per cent of the total production of cabbage in the country. The production of cabbage in the State is 0.18 million tones from an area of 0.09 million hectares having productivity of 19.8 tones/ha. Major cabbage producing belts in the State are Belgavi, Haveri, Dharwad, Hassan, Bellary, Mysore and some other districts of north Karnataka. It also contributes 4.6 per cent of production and 4.5 per cent of area of vegetable. In Belagavi 612 hectares of cabbage is grown and 460 hectares of cabbage is grown in Haveri district (Anonymous, 2016).

In the recent past, efforts have been made to increase the production of vegetables by developing large number of high yielding, good quality and disease resistant varieties/ hybrids and other required cultivation packages. The high yielding varieties/hybrids are more input responsive. The critical input *viz.*, fertilizer, if applied in excess, makes the

plants to become succulent and thus prone to attacks by more of pests. To minimise the pest attack, farmer resorts to usage of chemical pesticides and their indiscriminate use is creating many problems like resurgence of pest species, destruction of natural enemies, more so of beneficial insects and decrease the quality of food.

Thus, the IPM is a broad ecological approach which aims at keeping pest population below economic threshold level by blending more than one method of pest control such as, cultural, mechanical, biological, chemical and legislative in a compatible and environmentally sound manner. This method is considered to be economical, effective, practical, protective and eco-friendly. But, the farmers are not adopting these practices due to lack of knowledge or for other several causes. Keeping these things in view, the present study was undertaken to find out relationship between knowledge level and profile characteristics.

RESOURCES AND METHODS

The study was an "expost-facto" research carried out during the year 2017-18 in Belagavi and Haveri districts of Karnataka. These districts were purposively selected for research study as area under cabbage crop is first and second rank in Karnataka state. From Belagavi and Haveri districts six taluks namely Bailhongal, Gokak, Belagavi, Hirekerur, Ranebennur and Byadgi were selected based on highest area and production under cabbage crop cultivation. From the each taluk five villages were selected. From each of the selected village, five cabbage growers were selected as respondents for the present investigation thus making a total of 150 respondents for the study following random sampling method. A pre-tested structured interview schedule was used to collect the data from the respondents by personal interview method. The data collected from respondents were tabulated and analyzed using appropriate statistical tools such as frequency, percentage mean, standard deviation and correlation coefficient were employed to assess the relationship between knowledge and independent variables.

Knowledge in IPM practices of cabbage was operationally defined as the amount of factual information possessed by a farmer regarding the IPM practices. Based on the extensive review of literature and consultation with the scientists of Entomology and Pathology departments and referring the package of practices of UHS Bagalkot. The important practices which were directly or indirectly related to the IPM practices in cabbage were selected to know the knowledge level of the farmers.

The independent variable like age, education, family size, annual income, extension contact, mass media exposer, social participation, economic motivation, scientific orientation, farm resource base were the main items of investigation.

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Relationship between knowledge and independent variables :

Education and knowledge :

A significant relationship was found between education and knowledge about IPM practices in cabbage at one per cent level. It implies education widens the horizons of an individual. Literate people were more receptive and always search for new information and technologies which help them to improve their socio-economic condition. The result are in line with findings of Bheemudada (2015) (Table 1).

Table 1 : Relationship between knowledge and independent variables (n = 150)

Independent variables	r value
Age	0.026
Education	0.398**
Family size	0.154
Cabbage farming experience	0.236**
Annual income	0.564**
Extension contact	0.378**
Mass media exposure	0.416**
Social participation	0.114
Scientific orientation	0.138
Economic motivation	0.033
Farm resource base	0.206*

* and ** indicate significance of values at P=0.05 and 0.01, respectively

Cabbage farming experience and knowledge :

At one per cent level of significance cabbage faming experience and knowledge about IPM practices had significant relationship. It indicates longer a farmer was engaged in farming of cabbage, the more knowledge he

had in production of that crop. The more of farming experience more will be the knowledge. Results are in conformity with findings of Rajashekar (2009) (Table 1).

Annual income and knowledge :

There existed a significant relationship between annual income and knowledge at one per cent level. The possible reason might be higher income group usually have greater exposer to new things and they are accessible to the education. And also annual income plays an important role in getting formal education. The study is supported by Rajashekar (2009) (Table 1).

Extension contact and knowledge :

Extension contact had positive and significant relationship with knowledge about IPM practices. It was obvious that farmers frequently contacted the extension personnel of development departments. This might have helped them to gain more knowledge on IPM practices. The results are in line with those of Bheemudada (2015) (Table 1).

Mass media exposure and knowledge :

There existed a positive and significant relationship with knowledge about IPM practices. The possible reason might be mass media are proven channel for quick information for large number of people in short time. Mass media enhance the ability of farmer to get more information about technology and widens the mental horizon of the farmers. The results are in line with those of Bheemudada (2015) (Table 1).

Farm resource base and knowledge :

At five per cent level of correlation farm resource base and knowledge about IPM practices was positively significant. This indicates farmer are having sufficient irrigation facility so they have diversified farming and farmers are having good resource to manage the farm. Usually they are having good extension contact, mass media exposure which influenced the more knowledge (Table 1).

Conclusion :

In the intention of controlling pests and diseases farmers resort to usage of chemical pesticides indiscriminately thus leading to resurgence of pests, destruction of natural enemies, and beneficial insects, reduction in fruit quality and residual effect of pesticides in the produce. Integrated pest management (IPM) approach which has been globally accepted for achieving sustainability in horticulture, with the advantages like safety to environment, low input based production and pesticide-free food commodities.

Variables such as age, family size, social participation, scientific orientation, economic motivation were not significantly related with knowledge about IPM practices. On the other hand variables such as education, cabbage farming experience, annual income, extension contact and mass media exposure have positive significant relationship at one per cent level of significance. Farm resource base was positively and significantly related with knowledge about IPM practices at 5 per cent level of significance.

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