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STUDY OF PROFILE CHARACTERISTICS OF CAULIFLOWER GROWERS OF UDAIPUR DISTRICT OF RAJASTHAN

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ABSTRACT

IPM refers to an ecological approach in pest management in which all available necessary techniques are consolidated in a unified programme, so that pest population can be managed in such a manner that economic damage is avoided and adverse side effects are minimized. The goal of IPM is to control population of the pest below level that result in economic damage. Ideally, this is achieved through the integration of all suitable control techniques in a compatible manner. The present study was conducted in Badgaon and Girwa tehsils of Udaipur district of Rajasthan. Four villages from each selected tehsil were taken and 12 respondents were selected randomly from each selected village for the study. Data were collected through prestructured interview schedule. The study revealed that out of total respondents 39.58 per cent respondents were from the middle age group of 35 to 44 years and the study clearly also showed that 46.87 per cent respondents of the total sample were educated up to primary level.

KEYWORDS: IPM, Pest Management, Economic Damage

INTRODUCTION

Cauliflower is grown for its white tender head or curd, which is used as a vegetable, soup and pickle. It is having a good nutritive value. It contains good amount of vitamins like vitamin A, C and fair amount of proteins and fibers. The cauliflower is also a good source of minerals like P, Ca, Mg, S, Fe, and Na but there are several insect-pests which attacks on cauliflower and reduces its nutritional value. In which some are common like diamond back moth, cabbage butter fly, tobacco caterpillar, cabbage semilooper etc. Generally farmers are using pesticides for controlling insect-pests in cauliflower, which are harmful for human health. So, there is essential to give a focus on IPM to maintain the nutritional level and sustainability in production of vegetables.

One of the greatest success stories of India is green revolution with its dramatic impact on food security. But spread of intensive agriculture by the green revolution actually led to newer problems such as:

- Excess use of irrigation water.
- Replacement of traditional varieties by high yielding varieties, and
- Inappropriate and excess use of fertilizers and pesticides.

However, inappropriate use of chemical pesticide create problem of ecological imbalance, environmental pollution, health hazards. The development of pesticide resistance also contributed to the loss of beneficial insects and

micro-organisms. Even the fertility of the soil is adversely affected due to repeated applications of soil pesticides. Thus, excess use of pesticides and its residues has created numerous side effects.

Therefore, the pests have to be managed through ecologically safe, environmentally sound and economically viable technologies. Thus, the issues of sustainability, productivity and stability have to be addressed through a system approach taking a holistic view.

The pest control started since long back, out of which some significant developments as the corner stones of Integrated Pest Management (IPM) that is as:

Table 1

Year	Event
1959	Concept of ET, ETL and IPM
1968	Insecticide Act
1981	IPM in India
1985	National Policy on IPM
1988	Establishment of NCIPM by ICAR
1992	Agenda 21 of UNCED at Rio de Janeiro on IPM.

It was realized that continuous uses of pesticide have created several unwanted effects:

- Pesticide residues in agricultural products leading toxicity in animals, including human beings.
- Direct hazard to human beings due to acute or chronic poisoning and death.
- Destruction of the natural control agents (predators, parasitoids) of the pests and other beneficial creatures (bee pollinators, eels, frogs, snakes, worms, birds etc.)
- Pest resurgence and development of resistance in pests to pesticides.
- Pollution of the soil, water and air and use of excess pesticide affects human health and also cause several diseases.

In view of the above side effects plant protection scientists and all concerned to pest management have decided to face the challenges ahead. Several insecticide chemicals have been banned and restricted to use in agriculture these are the big achievements on IPM in the country.

MATERIALS AND METHODS

The present study was conducted in the purposively selected Udaipur district of Rajasthan. There are total eleven tehsils in Udaipur district of Rajasthan, out of which, two tehsils namely Badgaon and Girwa were selected on the basis of maximum area under cultivation of cauliflower. Further, a comprehensive list of all the major cauliflower growing villages was prepared in consultation with the personnel of Revenue and Agriculture Department from the identified tehsils. Four villages from each selected tehsil were taken on the basis of maximum area under cauliflower cultivation. For selection of respondents, comprehensive list of cauliflower growers was prepared with the help of village patwari and Agriculture Supervisor of respective villages. From the list so prepared, 12 respondents were selected randomly from each selected village. Thus, in all 96 farmers were included in the sample of the study. Data were collected through prestructured interview schedule.

RESULTS AND DISCUSSIONS

The data relating to background information of the respondents such as age, education, size of land holding, income level, cosmopolitan outlook, economic motivation, and extension contact are presented in subsequent tables.

Age of Respondents

On the basic of their age, the respondents were classified into three categories on the basis of mean and standard deviation. The data presented in Table 1 reveal that out of the total respondents, 39.58 per cent respondents were from middle age group of 35 to 44 years, whereas 31.25 per cent from old age group (above 44 years) and only 29.17 per cent respondents were found in the young age group i.e. below 35 years.

A close observation to the data further shows that 31.25 and 27.08 per cent respondents were found in the young age group in Badgaon and Girwa tehsils respectively. While, 41.67 and 37.50 per cent respondents were observed in middle age group in Badgaon and Girwa tehsils respectively. Whereas, 27.08 and 35.42 per cent respondents were observed in old age group in Badgaon and Girwa tehsils respectively.

Table 1: Distribution of the Respondents on the Basis of Age n=96

S.No.	Age Group	Badgaon Tehsil		Girwa Tehsil		Total	
		f	%	f	%	f	%
1.	Young (below35 years)	15	31.25	13	27.08	28	29.17
2.	Middle (35-44 years)	20	41.67	18	37.50	38	39.58
3.	Old (above 44 years)	13	27.08	17	35.42	30	31.25

f = frequency, % = per cent

Findings are in line with the findings of Dadheech (2010) who had reported that 58.50 per cent respondents were from middle age group. Whereas, 17 per cent from old age group and remaining 49 per cent were in the young age group.

Education Level of Respondents

To develop an understanding about the level of education of selected respondents, they were classified into two categories i.e. upto primary level and above primary level. The frequencies of the respondents were counted and converted into percentage for both the categories of respondents. The results are presented in Table 2. It is evident from the Table 2 that 46.87 per cent respondents were educated upto primary level, whereas 53.13 per cent respondents were educated above primary level in the study sample.

Table 2: Distribution of the Respondents on the Basis of Their Education n=96

S.No.	Education Level	Badgaon Tehsil		Girwa Tehsil		Total	
		f	%	f	%	F	%
1.	Upto primary level	22	45.83	23	47.92	45	46.87
2.	Above primary level	26	54.17	25	52.08	51	53.13

f = frequency, % = per cent

A further glance at the data in the Table 2 reveals that 45.83 and 47.92 per cent respondents were educated upto primary level in Badgaon and Girwa tehsils respectively. Whereas, 54.17 and 52.08 per cent respondents were educated above primary level in Badgaon and Girwa tehsils respectively. It was interesting to note that none of the respondents in the study area was illiterate.

Findings are in agreement with the findings of Rawal (2011) who had reported that majority of the okra growers were having middle to above middle level of education. It's interesting to note that none of the respondents was illiterate in the study sample.

Size of Land Holding of the Respondents

On the basis of the size of land holding, the respondents were classified into three categories i.e., marginal farmers (<1 ha.), small farmers (1 to 2 ha.) and large farmers (>2 ha.)**.** A perusal of data presented in Table 3 reveal that out of total respondents only 27.08 per cent respondents were observed as marginal farmers. Whereas, 40.63 per cent respondents were noted as small farmers. While, 32.29 per cent respondents were observed as large farmers in the study sample.

While analysis of data in Table 4 indicates that 25.00 and 29.17 per cent respondents were observed marginal farmers in Badgaon and Girwa tehsils respectively. While, 41.67 and 39.58 per cent respondents were observed to be of small farmers category in Badgaon and Girwa tehsils respectively. While, 33.33 and 31.25 per cent respondents were observed to be of category of large farmers in Badgaon and Girwa tehsils respectively.

Table 3: Distribution of the Respondents on the Basis of Size of Land Holding n=96

S.No.	Land Holding Category	Badgaon Tehsil		Girwa Tehsil		Total	
		f	%	f	%	f	%
1.	Marginal farmers (upto 1 ha.)	12	25.00	14	29.17	26	27.08
2.	Small farmers (1 to 2 ha.)	20	41.67	19	39.58	39	40.63
3.	Large farmers (above 2 ha.)	16	33.33	15	31.25	31	32.29

f = frequency, % = per cent

Findings are supported by the findings of Dadheech (2010) who had reported that 44.50 per cent from marginal category, while 35 per cent from small category and remaining 20.50 per cent farmers were of big category.

Income Level of the Respondents

With a view to classify the respondents on the basis of their annual income, three categories were formulated i.e. low, medium and high income group. It is evident from the Table 4 that 30.21 per cent respondents were observed in low income group. While, 42.71 per cent respondents were observed in medium income group and 27.08 per cent respondents were observed in high income group in study sample.

Table 4: Distribution of the Respondents on the Basis of Income Level n=96

S.No.	Income Level	Badgaon Tehsil		Girwa Tehsil		Total	
		F	%	F	%	F	%
1.	Low (below 65,000 Rs.)	14	29.17	15	31.25	29	30.21
2.	Medium (65,000 to 75,000 Rs.)	22	45.83	19	39.58	41	42.71
3.	High (above 75,000 Rs.)	12	25.00	14	29.17	26	27.08

f = frequency, % = per cent

A further glance at the data in the Table 4 reveals that 29.17 and 31.25 per cent respondents were observed in low income group in Badgaon and Girwa tehsils respectively. Whereas, 45.83 and 39.58 per cent respondents were observed in medium income group in Badgaon and Girwa tehsils respectively. While, 25.00 and 29.17 per cent respondents were observed in high income group in Badgaon and Girwa tehsils respectively. Findings are supported by the findings of verma (2010).

Cosmopolitan Outlook of the Respondents

With a view to classify the respondents on the basis of their cosmopolitan nature, three categories were formulated i.e. low, medium and high cosmopolitan. The data presented in Table 5 show that out of total respondents, 31.25 per cent respondents were found in low cosmopolitan outlook group and 40.63 per cent were found in medium cosmopolitan outlook category. Whereas, 28.13 per cent respondents were observed in high cosmopolitan outlook group.

Table 5: Distribution of the Respondents on the Basis of Cosmopolitan Outlook n =96

S.No.	Cosmopolitan Outlook Category	Badgaon Tehsil		Girwa Tehsil		Total	
		F	%	f	%	f	%
1.	Low cosmopolitan outlook (< 16.54)	15	31.25	15	31.25	30	31.25
2.	Medium cosmopolitan outlook (16.55 to 21.24)	19	39.58	20	41.67	39	40.63
3.	High cosmopolitan outlook (>21.24)	14	29.17	13	27.08	27	28.13
	Total	**48**	**100**	**48**	**100**	**96**	**100**

f = frequency, % = per cent

Further analysis of data reveals that 31.25 and 31.25 per cent respondents were observed in low cosmopolitan outlook in Badgaon and Girwa tehsils respectively. While, 39.58 and 41.67 per cent respondents were observed in medium cosmopolitan outlook in Badgaon and Girwa tehsils respectively. Whereas, 29.17 and 27.08 per cent respondents were observed in high cosmopolitan outlook in Badgaon and Girwa tehsils respectively.

Findings are supported by the findings of Meena (2014) who had reported that 28 per cent farmers were from low cosmopolitan group and 51 per cent farmers were found in medium cosmopolitan group. Whereas, only 21 per cent farmers were high cosmopolitan in nature.

Economic Motivation of the Respondents

With a view to classifying the respondents on the basis of their economic motivation, three categories were formulated i.e. low, medium and high economic motivation. The data presented in Table 6 show that out of total respondents, 29.17 per cent respondents were observed in low economic motivation group. While, 38.54 per cent respondents were observed in medium economic motivation. Whereas, 32.29 per cent respondents were observed in high economic motivation category

Table 6: Distribution of the Respondents on the Basis of Economic Motivation n=96

S.No.	Economic Motivation Category	Badgaon Tehsil		Girwa Tehsil		Total	
		F	%	f	%	f	%
1.	Low economic motivation (< 19.02)	14	29.17	14	29.17	28	29.17
2.	Medium economic motivation (19.03 to 24.34)	18	37.50	19	39.58	37	38.54
3.	High economic motivation (>24.34)	16	33.33	15	31.25	31	32.29
	Total	**48**	**100**	**48**	**100**	**96**	**100**

f = frequency, % = per cent

The data recorded in Table 6 show that 29.17 and 29.17 per cent respondents were observed in low economic motivation in Badgaon and Girwa tehsils respectively. While, 37.50 and 39.58 per cent respondents were observed in medium economic motivation in Badgaon and Girwa tehsils respectively. Whereas, 33.33 and 31.25 per cent respondents

were observed in high economic motivation in Badgaon and Girwa tehsils respectively.

Findings are in agreement with the findings of Rawal (2011) who had reported that 45 per cent okra growers reported to be medium level of economic motivation. Whereas, 32.50 per cent respondents were in high level of economic motivation and remaining 22.50 per cent pesticides users were reported to be low level of economic motivation.

CONCLUSIONS

The study revealed that out of total respondents 39.58 per cent respondents were from the middle age group of 35 to 44 years, whereas, 31.25 per cent respondents were from old age group (above 44 years) and remaining only 29.17 per cent cauliflower growers were from young age group i.e. below 35 years. The study clearly showed that 46.87 per cent respondents of the total sample were educated up to primary level. While, 53.13 per cent were educated above primary level of the total sample. Findings indicated that 40.63 per cent respondents were from small farmers group. Whereas, 32.29 per cent respondents were from large farmers group and remaining only 27.08 respondents were from marginal farmers group. The study revealed that 42.71 per cent of the total sampled respondents were from medium income level (65,000 to 75,000 Rs.). Whereas, 30.21 per cent respondents were from low income level (below 65,000 Rs.) group and remaining 27.08 per cent respondents were from high income level group i.e. above 75,000 Rs. The study indicated that 40.63 per cent of the total sampled respondents were in medium level of cosmopolitan outlook. While, 28.13 per cent were in high level of cosmopolitan outlook and remaining 31.25 per cent cauliflower growers were recorded in low level of cosmopolitan outlook. It is evident from the study that 38.54 per cent of the respondents were in the medium level of economic motivation. Whereas, 29.17 per cent respondents were in low level of economic motivation and 32.29 per cent respondents were in high level of economic motivation.

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