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The adoption of vegetable production practices being followed by vegetable growers and relationship between independent and dependent variables

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Abstract
The study was carried out during the year 2016-2017 Selected from highest number of vegetable growers in Faridpur, Bhunta, Bitharichainpur and Shergarh, Block from Bareilly district of Uttar Pradesh. Among 14 Vegetable production practices, the highest adoption was observed regarding the practice like spacing in the main field (87.91%) fallowed by Quality of FYM applied per acre (87.50%), and the highest adoption was observed regarding the practice like spacing in the main field (87.91%) fallowed by quality of FYM applied per acre (85.50%).

Keywords: production, adoption, practice and vegetable.

Introduction
India is second leading vegetable producing country in the world. The country is blessed with a unique gift of nature of diverse climate and distinct seasons to make it possible to grow good number of vegetables in an area of 9205 thousand ha. With the annual production of 162186 thousand tones. The vegetable crops have been well advocated in solving the problem of food security, since they are rich source of minerals, vitamins, fiber and contain fair amount of protein as well as he cultivation of vegetables, which is done mainly for economic gain or for marketing purpose, is known as cash crop or vegetable cultivation. India is one of the largest producer of raw materials for the food processing industries in the world, the industry itself, is under developed in India. Less than 2 per cent of fruit and vegetable production is processed, compared with 30 per cent in Thailand, 70 per cent in Brazil, 78 per cent in Philippines and 80 per cent in Malaysia. The value addition in food sector is as low as 7 per cent. There is need for increasing food processing from 2 per cent to 10 per cent by 2010.This will require an investment of Rs. 1, 40,000 crore in food processing sector. The nearly 300g of vegetable daily recommended from the food habits. Growing of vegetables is 4 to 8 times more remunerative than cereals and it also generate employment in the rural areas. Commercial vegetable cultivation is not getting as popular as it should be among growers because of high input costs, lack of irrigation facilities and difficulties in their marketing and storage. India is the second largest producer of vegetable in world next only to China. Currently per capita consumption of vegetable is 175g per capita per day, which is far below recommended dose of 300g (ICMR). Country's vegetable demand would be around 135 million tones. There is an urgent need to increase the productivity of vegetable in order to provide nutritional security to increasing population of India. Uttar Pradesh is second largest producer of vegetable after West Bengal. It has an area of 0.84 million ha under vegetable which account for 15.8 million tones production, a study was conducted to find out the adoption of production and marketing management behaviour of vegetable growers in Bareilly district for commercial cultivation of vegetable. In everyday usage, a vegetable is any part of a plant that is consumed by humans as food as part of a meal. The term *vegetable* is somewhat arbitrary, and largely defined through culinary and cultural tradition. It normally excludes other food derived from plants such

As fruit, nuts, and cereal grains, but includes seeds such as pulses. The original meaning of the word *vegetable*, still used in biology, was to describe all types of plant, as in the terms "vegetable kingdom" and "vegetable matter". Originally, vegetables were collected from the wild by hunter gatherers and entered cultivation in several parts of the world, probably during the period 10,000 BC to 7,000 BC, when a new agricultural way of life developed. At first, plants which grew locally would have been cultivated, but as time went on, trade brought exotic crops from elsewhere to add to domestic types. Nowadays, most vegetables are grown all over the world as climate permits, and crops may be cultivated in protected environments in less suitable locations. China is the largest producer of vegetables and global trade in agricultural products allows consumers to purchase vegetables grown in faraway countries. The scale of production varies from subsistence farmers supplying the needs of their family for food, to agribusinesses with vast acreages of single-product crops. Depending on the type of vegetable concerned, harvesting the crop is followed by grading, storing, processing, and marketing. Vegetables can be eaten either raw or cooked and play an important role in human nutrition, being mostly low in fat and carbohydrates, but high in vitamins, minerals and dietary fiber. Many nutritionists encourage people to consume plenty of fruit and vegetables, five or more portions a day often being recommended. There has been a remarkable increase in the area, production and productivity of this crop during the last 2 decades. It has been mainly due to disease free planting material, optimum availability of fertilizers, improved irrigation facilities, adoption of modern crop production technologies and above all due to high yielding varieties used by the majority of the growers. The productivity of the state is 18.32 tonnes per hectare which is more than national productivity (15.87) could be increased to 22.5 by the end of the 11th five year plan. The percentage of potato growers is greater in the medium and large farm is less. The total seed requirement of the state is a about 11.20 million tonnes annually but only about 0.4 per cent seed is being replaced by the department which is very inadequate. At present the state has cold storage facilities of about 51 per cent of the total population against the requirement of 60 per cent of the total population. Cauliflower (*Brassica oleraceae L.* var. Botrytis) is one of the major vegetables in India. It is grown for its unopened flavor clusters known as curd, which is the edible part of the plant. The edible part consists of a compact terminal mass of greatly thickened and modified flower structures which subtending fleshy stalks. The curd forms at the top of the plant stem which broad and elongated leaves that extended far above the curd.

Research Methodology

The present study entitled "Study on Adoption of production and marketing management behaviour of vegetable growers in Bareilly district of Uttar Pradesh." Was under taken during the Agricultural year 2016.Faridpur, Bhuta, Shergarh and Bithree Chainpur had selected purposively for study of the research problem. The tehsil Faridpur has two Communities developmental blocks, out of these, both blocks had selected purposively for the study. In Faridpur tehsil, and Shergarh and Bithreechainpur block only 16 sample villages were selected for study, 4 villages from each block i.e. Faridpur Bhuta, Shergarh, and Bithreechainpur. Selection of the respondents had done by simple random sampling method and 15 respondents from each village taken to make a total sample size of 240. The author himself had collected the data from the respondents with the help of pre-tested interview schedule. Analysis was done with the use of percentage, mean and standard deviation for drawing the inferences. The study also highlighted the constraints as faced by the respondents in vegetable cultivation with suitable remedial measures.

Statistical methods used

The percentage and average will be used for making simple interpretation.

Percentage

The frequency of a particular cell will be divided by the total number of respondents in that particular category and multiplied by 100 for calculating the percentage.

Average ($\bar{x}$)

The average ($\bar{x}$) will be calculated by adding the total scores obtained by the respondents and divided it by the total number of respondents using the following formula:

$$(\bar{X}) = \frac{\sum X}{N}$$

Where,

$(\bar{X})$ = Average or mean
$\sum x$ = Total number of scores obtained by respondents
N = Total number of respondents

Standard deviation

Standard deviation is the square root of mean of the squares of all deviations, the directions being measured from the arithmetic mean of the distribution. It is commonly developed by symbol sigma (σ).

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum d^2}{n}}$$

Where,

σ = Standard deviation
d = Deviation of variables mean
n = Total number items

Correlation coefficient (r)

The coefficient of simple correlation (r) in a measure of the mutual relationship between two variables that in *i.e.* x and y, where relationship is measured and commonly termed as product movement correlation coefficient and is computed by the following formula:

$$r = \frac{\sum (X - \bar{x})(Y - \bar{Y})}{\sqrt{\sum (X - \bar{x})^2 . \sum (Y - \bar{Y})^2}}$$

Where,

r = correlation coefficient
X= value of x independents variables
$\bar{X}$ = mean of X independents variable
Y = value of Y dependents variables
$\bar{Y}$ = mean of Y dependents variable.

Results and Discussion

Table 1: Adoption of vegetable production practices

S. No	Techniques/Practices	No of Respondent			
		Yes	%	No	%
1.	Land preparation	162	67.5	78	32.5
2.	Varieties used	170	70.83	70	29.16
3.	Sowing type	191	79.58	49	20.41
4.	Seed rate	163	67.91	77	32.08
5.	Seed treatment	205	85.41	35	14.58
6	Quantity of FYM applied per acre	210	87.5	30	12.5
7	Spacing in the main field	211	87.91	29	12.08
8	Bio-fertilizers applied per acre	172	71.66	68	28.33
9	Irrigation management	107	44.58	133	55.41
10	Use of natural resources	142	59.16	98	40.83
11	Use of Bio fertilizers	165	68.75	75	31.25
12	Use of Bio pesticides	166	69.16	74	30.83
13	Use of vermicompost	117	48.75	123	51.25
14	Harvesting method	102	42.5	138	57.5

It is obvious from the Table 1. That among all 14 agricultural practices of crop production, Land preparation (67.5%), varieties used (70.83%), Sowing type (79.58%), seed rate (67.91%), Seed treatment (85.41%), quantity of F Y M applied per acre (87.50), Spacing in the main field (87.91), bio-fertilizer applied per acre (71.66). Irrigation management (44.58), use of natural resources (68.75), use of bio-fertilizers (68.75), use of bio-pesticide (69.16), use of vermicompost (48.75), use of harvesting method. It can be calculated that the extent of adoption about agriculture production technology seems to be satisfactory.

Table: 2 Correlation coefficient (r) between different Independent variables and adoption of vegetable production practices

S. No.	Variable	Correlation coefficient
1	Age	-0.18381**
2	Caste	-0.05727
3	Marital status	0.087739
4	Education	0.197366**
5	Social participation	0.171144**
6	Extension contact	0.149567*
7	Family type	-0.09102
8	Family size	0.015533
9	Housing pattern	-0.04272
10	size of land holding	0.2457**
11	Experience in Veg. Growing	0.017993
12	Annual income	-0.00277
13	Occupation	0.012328
14	Farming experience	0.004756
15	Innovative proneness	-0.20058**
16	Risk orientation	0.117735
17	Economic motivation	0.801878**

*****Significant at 0.05% probability level 0.129 ** Significant at 0.01% probability level 0.168

The Table-2 reveals that out of 17 variables studied, four variables namely, economic motivation, education, social participation, size of land holding and usefulness of vegetable production had highly significant and positive correlation with extent of knowledge of respondents about vegetable growers. Against it age innovative proneness had highly significant and negative correlated with extend of adoption of respondents. The variable like marital status, family size, experience in veg. growing, occupation farming experience, risk orientation had positively correlated and nonsignificant with knowledge extent. While, the variable like caste, family type, Housing pattern and annual income, had negatively correlated and nonsignificant with adoption extent. Those variables which showed the positive and significant relationship had direct influence over knowledge extent about vegetable cultivation practices. It meant that if the values of these variable increases, the knowledge extent of cultivation practices will also increase.

Table 3: Adoption of soil fertility enhancement components

S. No	Techniques/Practices	No of Respondent			
		Yes	%	No	%
I	Application of organic manure	139	57.91	101	42.08
2.	Application of farm yard manure	147	61.25	93	38.75
3	Application of green manure	170	70.83	70	29.16
4.	Use of seeds cake/press mud	188	48.33	52	21.66
II	Intercultural practices				
1.	Maintaining optimum soil moisture	121	50.41	119	11.90

2.	Timely weeding	125	52.08	115	47.91
3.	Timely irrigation	152	63.33	88	36.66
III	**Use of inorganic fertilizers**				
1.	Application of Balance fertilizer dose	103	42.91	137	57.08
2.	Timely application	160	66.66	80	33.33
3.	Right method of application	75	31.25	165	68.75
4.	Top dressing and spraying	116	48.33	124	51.66
5.	Application Micro nutrients	146	60.83	94	39.16

It is obvious from the Table 3 that among all agricultural practices of crop production, application of organic manure (57.91%), application of farm yard manure (61.25%), application of green manure (70.83%), application of seed cake/press mud (48.33%), maintaining optimum soil moisture (50.41%), timely weeding (52.08), timely irrigation (63.33) application of only 50%recommended dose of fertilizer with organic manures (42.91), application of balance fertilizer dose (66.66), scientific method of application (31.25) top dressing and spraying (48.33) micro nutrients (60.83). It can be calculated that the extent of adoption about agriculture production technology seems to be satisfactory.

Table 4: Correlation coefficient (r) between different Independent variables and adoption of soil fertility enhancement components

S. No.	Variable	Correlation coefficient
1	Age	-0.1095
2	Caste	0.116698
3	Marital status	0.164682*
4	Education	0.1113
5	Social participation	0.143997*
6	Extension contact	0.185387**
7	Family type	0.036752
8	Family size	-0.21141**
9	Housing pattern	-0.06003
10	Size of land holding	0.354528**
11	Experience in Veg. growing	0.057578
12	Annual income	0.046428
13	Occupation	0.139337*
14	Farming experience	-0.02434
15	Innovative proneness	-0.13471*
16	Risk orientation	0.263313**
17	Economic motivation	0.622793**

*****Significant at 0.05% probability level 0.129 ** Significant at 0.01% probability level 0.168

The Table-4 reveals that out of 17 variables studied, five variables namely, economic motivation, size of land holding, risk orientation and extension contact usefulness of vegetable production highly significant and positive correlation with extent of soil fertility enhancement of respondents about vegetable growers. While family size highly significant and negative correlation variable like, marital status, social participation and occupation had positive correlation and moderately significant. Innovative proneness negative correlation and moderately nonsignificant the variable like caste, education, family type, experience in Veg. Growing, annual income were found positively correlated knowledge extent. The variable like age, housing pattern, farming experience was found negatively correlated with adoption of soil fertility. Those variables which showed the positive and significant relationship had direct influence over knowledge extent about vegetable cultivation practices. It meant that if the values of these variable increases, the adoption of soil fertility enhancement component of cultivation practices will also increase.

Table 5: Adoption of scientific method of pest and disease management by vegetable growers.

S. No	Techniques/Practices	No of Respondent			
		Yes	%	No	%
I	**Cultural pest management practices**				
1	Deep summer ploughing	196	81.66	44	18.33
2.	Use of pest and disease resistant varieties	196	81.66	44	18.33
3.	Time of sowing	240	100	0	0
4.	Seed treatment with Biopesticide	195	81.25	45	18.75
5.	Timely sowing of entire block	226	94.16	14	5.83
6.	Systamatic planting	180	75	60	25
7.	Trap cropping	232	96.66	8	3.33
8.	Crop rotation with legume crop	137	57.08	103	42.91
9.	Avoiding ratoon crop	161	67.08	79	32.91
10.	Mixed cropping	191	79.58	49	20.41
II.	**Mechanical pest management practices**				
1	Uprooting of alternate host plants	131	54.58	109	45.41
2.	Monitoring of pest	130	54.16	110	45.83
3.	Collection and destruction of	129	53.75	111	46.25

	affected plants and shoots				
4.	Collection and destruction of egg masses /larva etc	159	66.25	81	33.75
5.	Use of pheromone trap	58	24.16	182	75.83
6.	Use of light traps to attract insect pests	118	49.16	122	50.83
III	**Use of Bio-pesticides/agents**				
1.	Use of neem seed kernel extract for worms and whiteflies	181	75.41	59	24.58
2.	Use of neem cake to control nematodes/root disease	151	62.91	89	37.08
3.	Ash/cow dung slurry for control of pests and disease	127	52.91	113	47.08
4.	Installation of bird perches for predatory birds like crow, myna etc	86	35.83	154	64.16
IV	**Weed management practices**				
1.	Keeping field bunds free from weeds	153	63.75	87	36.25
2.	Timely inter culture	137	57.08	103	42.91
3.	Hand weeding/ mechanical weeding	183	76.25	57	23.75
4.	Land preparation	196	81.86	44	18.33
5.	Soil solarisation	205	85.41	35	14.58
6.	Mulching	160	66.66	80	33.33

It is obvious from the Table 5 that among agricultural practices of crop production. cultural pest management practices Deep summer plouging (81.66%) use of pest and disease resistant varieties (81.66%), time of sowing (100%), seed treatment with biopesticide (81.25%), timely sowing of intire block (94.16%), systematic planting (75%), trap cropping (96.66%) crop rotation with legume crop (57.08%), inter cropping (90.41), abioding ratoon crop (67.08%) mixed cropping (79.58%). mechanical pest management practices-uprooting of alternate host plants (54.58%), monitoring of pest (54.16%), collection and destruction of affected plants and shoots (53.75%) collection and destruction of egg /larva etc (66.25%) use of pheromone trap (24.16%)use of light trap (49.16%). Use of Bio-pesticide /agent-use of neem seed kernel extract for worm and white flies (75.41%),Use of neem cake control nematodes/root disease (62.91%), ash/cow dung slurry for control of pest and disease (52.91%), Installation of bird perches for predatory Birds like crow, myna etc (35.83%). Weed management practices –Keeping field bund free from weeds (63.75%), Timely inter (57.08%), hand weeding/mechanical weeding (76.25%), land preparation (81.86%), soil solarisation (85.41%), Mulching (66.66%) culture It can be calculated that the extent of adoption about agriculture production technology seems to be satisfactory.

Table 6: Correlation coefficient (r) between different Independent variables and adoption of scientific method of pest and disease management

S. No.	Variable	Correlation coefficient
1	Age	-0.05961
2	Caste	-0.07606
3	Marital status	0.106505
4	Education	0.103506
5	Social participation	0.041337
6	Extension contact	0.272799**
7	Family type	-0.15883*
8	Family size	-0.01359
9	Housing pattern	-0.14754*
10	Size of land holding	0.390751**
11	Experience in Veg. growing	-0.01473
12	Annual income	-0.13169
13	Occupation	0.191432**
14	Farming experience	-0.17471**
15	Innovative proneness	0.150959*
16	Risk orientation	0.250379**
17	Economic motivation	0.675856**

*Significant at 0.05% probability leve l0.129 ** Significant at 0.01% probability level 0.168

The Table-6 reveals that out of 17 variables studied, five variables namely, economic motivation, size of land holding, extension contact, risk orientation, occupation usefulness of vegetable production highly significant and positive correlation with extent of adoption of respondents about vegetable growers. The farming experience highly significant and negative correlation. Variable like, innovative proneness, had positive correlated and moderately significant. Variable like, family type and housing pattern, negative correlated and moderately nonsignificant. The variable like marital status, education, social participation, were found positively correlated adoption extent. The variable like age, caste, family size, experience in vegt. Growing, annual income was found negatively correlated with adoption of scientific methods of pest and disease. Those variables which showed the positive and significant relationship had direct influence over knowledge extent about vegetable cultivation practices. It meant that if the values of these variable increases, the adoption extent of cultivation practices will also increase.

Table 7: Adoption of post-harvest management practices of vegetable cultivation

S. No	Techniques/Practices	No. of respondents			
		Yes	%	No	%
1.	Washing and cleaning	153	63.75	87	36.25
2.	Shorting and grading	175	72.91	65	27.08
3.	Drying, dehydration, blonching	160	66.33	80	33.33
4.	Packaging and leveling	139	57.91	101	42.08
5.	Storage	140	58.33	100	41.66

It is obvious from the Table 7 that Adoption of postharvest management practices washing and cleaning (63.75%), Shorting and grading (72.91%), drying, dehydration, blonching (66.33%), packaging and leveling (57.91%), Storage (58.33%) It can be calculated that the extent of adoption about agriculture production technology seems to be satisfactory.

Table 8: Correlation coefficient (r) between different Independent variables and adoption of post-harvest management

S. No.	Variable	Correlation coefficient
1	Age	0.051367
2	Caste	0.126938
3	Marital status	0.094304
4	Education	0.101583
5	Social participation	0.045449
6	Extension contact	0.116634
7	Family type	0.035026
8	Family size	-0.29496**
9	Housing pattern	-0.14075*
10	Size of land holding	0.252784**
11	Experience in Veg. Growing	0.209746**
12	Annual income	-0.06235
13	Occupation	0.12848
14	Farming experience	0.115048
15	Innovative proneness	0.059506
16	Risk orientation	0.329525**
17	Economic motivation	0.36853**

*Significant at 0.05% probability level 0.129 ** Significant at 0.01% probability level 0.168

The Table-8 reveals that out of 17 variables studied, four variables namely, risk orientation, size of land holding, experience in veg. growing and economic motivation usefulness of vegetable production highly significant and positive correlation with extent of adoption of respondents about vegetable growers. And family size highly significant and negative correlation. The variable housing pattern, negative correlated and moderately nonsignificant. The variable like age, caste, marital status, education, social participation extension contact, family type, occupation, farming experience, innovative proneness, were found positively correlated adoption extent. The variable like annual income was found negatively correlated with knowledge extent. Those variables which showed the positive and significant relationship had direct influence over adoption of postharvest management about vegetable cultivation practices. It meant that if the values of these variable increases, the adoption extent of cultivation practices will also increase.

Table 9: Adoption of Marketing Management practices of vegetable cultivation

S. No.	Techniques/Practices	No of Respondent			
		Yes	%	No	%
1.	Use of market information /selling in local market	165	68.75	75	31.25
2.	Selling the produce at village trader	166	69.16	74	30.83
3.	Selling the produce at mandi	117	48.75	123	51.25
4.	Selling the standing crop in the field	102	42.50	138	57.5
5.	Selling the produce at other agency	133	55.41	107	44.58

It is obvious from the Table 9 that adoption of marketing management practices use of marketing information/selling in local market (68.75%), selling the produce at village trader (69.16%), selling the produce at mandi (48.45%), selling the standing crop in the field (42.50%), selling the produce at other agency (55.41%) it can be calculated that the extent of adoption about agriculture production technology seems to be satisfactory.

Table 10: Correlation coefficient (r) between different Independent variables and Adoption of Marketing Management

S. No.	Variable	Correlation coefficient
1	Age	-0.30351**
2	Caste	-0.21622**
3	Marital status	0.183529**
4	Education	0.133895*
5	Social participation	0.186277**
6	Extension contact	0.049006
7	Family type	0.030365
8	Family size	0.127678
9	Housing pattern	0.213313**
10	size of land holding	0.148742*
11	Experience in Veg. growing	-0.16748*
12	Annual income	0.065493
13	Occupation	0.001055
14	Farming experience	-0.07872
15	Innovative proneness	0.024834
16	Risk orientation	-0.24498**
17	Economic motivation	0.044219

*Significant at 0.05% probability level 0.129 ** Significant at 0.01% probability level 0.168

The Table-10 reveals that out of 17 variables studied, three variables namely, housing pattern, social participation, marital status usefulness of vegetable production highly significant and positive correlation adoption of respondents about vegetable growers. The age, risk orientation, caste highly significant and negative correlation. Variable like, size of land holding, positive correlated and moderately significant and variable like experience in vegetable growing, negative correlated and moderately nonsignificant. The variable like education, extension contact, family type, family size, occupation annual income, innovative proneness, economic motivation were found positively correlated knowledge extent. The variable like, farming experience was found negatively correlated with adoption extent. Those variables which showed the positive and significant relationship had direct influence over adoption extent about vegetable cultivation practices. It meant that if the values of these variable increases, the adoption of marketing management practices will also increase.

Table 11: Behaviour of the respondent toward vegetable production

S. No	Techniques/ Practices	Very much	%	Much	%	Some What	%	Not at all	%
1	Land preparation	104	43.33	102	42.5	24	10	10	4.16
2	Varieties used	98	40.83	104	43.33	23	9.58	15	6.25
3	Sowing type	99	41.25	102	42.5	23	9.58	16	6.66
4	Seed rate	103	42.91	100	41.66	16	6.66	21	8.75
5	Seed treatment	101	42.08	100	41.66	20	8.33	19	7.91
6	Fertilizer application	99	41.25	97	40.41	27	11.25	17	7.08
7	Irrigation management	101	42.08	99	41.25	22	9.16	18	7.5
8	Nutrient management	100	41.66	102	42.5	22	9.16	16	6.66
9	Integrated pest management	105	43.75	105	43.75	20	8.33	10	4.16
10	Integrated disease management	104	43.33	100	41.66	21	8.75	15	6.25
11	Postharvest technology	100	41.66	100	41.66	29	12.08	11	4.58
12	Marketing	90	37.5	92	38.33	44	18.33	14	5.83

It is obvious from the Table 11 that behavior of the respondent, land preparation (43.33%), varieties used (40.83%), sowing type (41.23%), seed rate (67.91%), seed treatment (42.08%), application of balanced fertilizer dose (41.25%), irrigation management (42.08), use of organic manure (41.66%) Integrated pest management (43.75%), integrated disease management (43.33), postharvest technology (41.66), marketing (37.50) It can be calculated that the extent of adoption about agriculture production technology seems to be satisfactory.

Table: 12 Correlation coefficient (r) between different Independent variables and behaviour of the respondent toward vegetable production

S. No.	Variable	Correlation coefficient
1	Age	-0.27034**
2	Caste	0.102995
3	Marital status	0.205538**
4	Education	0.222299**
5	social participation	0.180345**
6	Extension contact	0.334355**
7	Family type	0.046122
8	Family size	-0.08285
9	Housing pattern	-0.13476*
10	Size of land holding	0.384711**

11	Experience in Veg. Growing	-0.20721**
12	Annual income	0.61050**
13	Occupation	0.123722
14	Farming experience	-0.31553**
15	Innovative proneness	0.202346**
16	Risk orientation	0.172797**
17	Economic motivation	0.527251**

*****Significant at 0.05% probability level 0.129 ** Significant at 0.01% probability level 0.168

The Table-12 reveals that out of 17 variables studied, nine variables namely, economic motivation, size of land holding, extension contact, education, marital status, innovative proneness, social participation, risk orientation, annual income usefulness of vegetable production highly significant and positive correlation with extent of behavior of respondents about vegetable growers. The farming experience, age, experience in veg. growing highly significant and negative correlation, variable like, housing pattern, negative correlated and moderately nonsignificant. The variables like occupation, caste, family type, were found positively correlated behavior extent. The variable like family size was found negatively correlated with knowledge extent. Those variables which showed the positive and significant relationship had direct influence over knowledge extent about vegetable cultivation practices. It meant that if the values of these variable increases, the behavior of the respondents toward vegetables production practices will also increase of the respondents.

Conclusion

Among 14 Vegetable production practices, the highest adoption was observed regarding the practice like spacing in the main field (87.91%) fallowed by Quality of FYM applied per acre (87.50%), and the highest adoption was observed regarding the practice like spacing in the main field (87.91%) fallowed by quality of FYM applied per acre (85.50%). Out of 17 variables studied, four variables namely, economic motivation, education, social participation, size of land holding and usefulness of vegetable production highly significant and positive correlation with extent of knowledge of respondents about vegetable growers The variable like marital status, family size, Experience in Veg. Growing, Occupation Farming experience, and risk orientation were found positively correlated knowledge extent. The variable like caste, family type, Housing pattern and annual income, was found negatively correlated with knowledge extent. Those variables which showed the positive and significant relationship had direct influence over knowledge extent about vegetable cultivation practices. It meant that if the values of these variable increases, the knowledge extent of cultivation practices will also increase of the respondents also increases.

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