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Socio-Economic Status and Knowledge Level of Brinjal Growers on Improved Production Practices in East Champaran District of Bihar

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Abstract: Brinjal has been considered as one of the important vegetable crop. Production and productivity of brinjal can be increased through adoption of new varieties and with improved technologies. The present study was conducted to understand the existing status of adoption of improved technology. This study was carried out in East Champaran district of Bihar during 2020-2021. By employing random sampling technique, 120 brinjal growers were selected and data were collected by personal interview method by using pre-tested interview schedule and later appropriate statistical analysis was done to find out the meaningful result. The results reported that majority of the respondents belonged to middle age (41.67%), educated to primary level of education (32.50%), possess land holding of below 1 ha (35%), earns medium level of annual income (45%), possess small family size (45%). Meanwhile, most of them had medium level of farm power (43.33%), membership in more than one organization (45%), low level of scientific orientation (51.67%), low level of extension contact (44.17%) and low level of progressiveness (52.50%). Meanwhile, most of them had medium level of knowledge on improved brinjal cultivation practices (64.17%) and had significant and positive association with age, education, farm power, social participation, extension contact, scientific orientation and progressiveness.

Keywords: Knowledge, Improved brinjal production practices, Brinjal growers

Introduction

Agriculture employs much of the rural population in developing countries. These populations make up a large part of the world poor. Farmers use their livelihood as a means of food security, income generation, and income levels are closely correlated with the performance of the agricultural sector. Meanwhile, vegetables are grown in India since thousands of years but now-a-days it has become an important enterprise at national and international level. In recent years, the vegetables has become as an essential requirement of the daily human diet, because of

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its nutritional value. Regular use of vegetables provides use most of the essential health building and protecting substances, such as vitamins and minerals.

India is the largest producer of ginger and okra amongst vegetables and ranks second in production of potatoes, onions, cauliflowers, brinjal, Cabbages, etc. (APEDA, 2019). The total production of vegetables in the world is around 790 million tones. The diverse agro-climatic in the country makes it possible to grow almost all varieties of fresh vegetables in India. India is the second largest producer of vegetables in the world (ranks next to China) and accounts for about 15% of the world's production of vegetables. In case of vegetables potato, tomato, onion, cabbage and cauliflower account for around 60% of the vegetables in the country. (Statistical Magazine, Govt. of UP). Among various vegetables grown in country, brinjal is important vegetable crop. It is also known as Egg plant. Brinjal flourishes in hot climates, but cannot tolerate drought. Brinjals are sensitive to cold weather and are damaged easily by frost. High yielding crop. Brinjals are low in calories, contain mostly water with some protein, fiber and carbohydrates and no fats (Maurya, 2017).

Brinjal (solanum melongena L) is a commercial vegetable crop belongs to the family of solanaceae. It is an annual crop. It is mainly used for culinary purpose. Brinjal has been considered as one of the important vegetable crop. The brinjal growers can increase production of brinjal through adoption of new varieties and with improved technologies. A first-hand knowledge regarding existing status of adoption of improved technology helpful to the extension workers for concentrating their efforts to create favorable condition for better adoption of the innovations of brinjal cultivation. Arvind kumar singh (2017) revealed that more than half of the respondents belong to middle age group, educated up to higher secondary, had medium level of land holding, medium level of annual income, sources of information and low level of material possession. Further he added, that he possessed low level of farm power.

Similarly, Shriwas et al., (2015) reported that high level of knowledge regarding selected practices of recommended brinjal production technology the practices were seed rate and seed treatment, followed by insect, pest and disease identification and management, selection and preparation of land for transplanting stage of seedlings for transplanting, irrigation and ratooning weed identification and management, manure and fertilizer in nursery bed and Selection of varieties hardening off (sowing method and seedling preparation, intercropping and harvesting, preparation of nursery bed (transplanting time and method, mulching and manure and fertilizer in

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main field and insect, pest and disease identification and management in nursery bed. With this context in mind, the following objectives of the study were framed.

1. To analyze the socio-economic profile of the respondents.
2. To access the knowledge and attitude of the respondents about improved brinjal production practices.
3. To determine the relationship between the socio-economic profile and knowledge level of the brinjal growers

Methodology

Descriptive research design is adopted for the study since it was a scientific method which involves observing and describing the behaviour of the subject without influencing it in anyway. East Champaran district of Bihar is purposively selected for the present study sice brinjal is the major crop cultivated in the area. In East Champaran district of Bihar, there are 27 blocks. Out of 27 blocks, Turkaulia block is selected purposively since it possessed the maximum area under brinjal cultivation. In Turkaulia block of East Champaran district of Bihar, there are 34 villages. Out of 34 villages, 6 villages were selected; namely, Bijulpur, Chargaha, Hardia, Jaisinghpur, Madhopur and Turkauliya. From the selected six villages namely Bijulpur, Chargaha, Hardia, Jaisinghpur, Madhopur and Turkauliya, 120 brinjal growers were selected. The complete list of brinjal growers were collected from the agriculture department. From each village, 20 brinjal growers were selected; thus, from six villages, 120 brinjal growers constitute the respondents.

The primary data were collected with the help of interview schedule, which was prepared on the basis of the objectives of the study. The secondary data were obtained from department of agriculture, various Governments like District Agriculture office, Sub-division office, Block Development Office, and from magazines, publications, previous studies and other thesis. The responses were recorded, classified and tabulated and appropriate statistical tools were employed and the results were presented as follows.

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Results and Discussion

The socio-economic profile of the brinjal growers were studied under various characteristics and the results were presented under table.1.

Table 1. Socio-economic profile characteristics of the brinjal growers

(n=120)

S. No.	Socio-economic characteristics	Category	Frequency	Percentage
1	Age (in years)	Young (20-35)	28	23.33
		Middle(36-55)	50	41.67
		Old (above 55)	42	35.00
2	Education	Illiterate	27	22.50
		Primary	39	32.50
		High School	35	29.17
		Graduate and above	19	15.83
3	Land holding	Below 1 hectare	42	35.00
		1-2 hectare	33	27.50
		2-3 hectare	35	29.17
		Above 3 hectare	10	08.33
4	Annual income	Low (upto 50,000)	35	29.17
		Medium (50,000 – 1 lakh)	54	45.00
		High (above 1 lakh)	31	25.83
5	Family size	Small	54	45.00
		Medium	45	37.50
		Big	21	17.50
6	Farm power	Low farm power	39	32.50
		Medium farm power	52	43.33
		High farm power	29	24.17
7	Social participation	No membership in any organization	10	08.34
		Membership in one organization	25	20.83
		Membership in more than one organization	54	45.00

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		Office bearer	31	25.83
8	Scientific orientation	Low	62	51.67
		Medium	38	31.67
		High	20	16.66
9	Extension contact	Low	53	44.17
		Medium	42	35.00
		High	25	20.83
10	Progressiveness	Low	63	52.50
		Medium	31	25.83
		High	26	21.67

From the table 1, it is definite that most of the respondents belonged to middle age (41.67%), followed by old (35%) and young age(23.33%). They were educated to primary level of education (32.50%), high school (29.17%), illiterate (22.50%) and graduate and above (15.83%). They possess land holding of below 1 ha (35%), 2-3 ha of land holding (29.17%), 1-2ha of land holding (27.50%) and above 3 ha (8.33%). The brinjal growers earns medium level of annual income (45%), low (29.17%) and high (25.83%) level of annual income. Simultaneously, the brinjal growers possess small family size (45%), medium (37.50%) and big family size (17.50%).

Meanwhile, most of them had medium level of farm power (43.33%), low farm power (32.50%) and high farm power (24.17%). They had membership in more than one organization (45%), followed by office bearer (25.83%), membership in one organization (20.83%) and only 08.34 per cent had no membership in any organization. Similarly, they had low level of scientific orientation (51.67%), medium (31.67%) and high (16.66%) level of scientific orientation. And also, they had low level of extension contact (44.17%), medium (35%) and high (20.83%) level of extension contact. Eventually, most of them had low level of progressiveness (52.50%), followed by medium (25.83%) and high (21.67%) level of progressiveness.

The knowledge level of the brinjal growers was studied on improved brinjal cultivation practices and the results were presented in table.2. and fig.1.

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Table 2. Distribution of the respondents according to their knowledge level

(n=120)

S. No.	Production technology	Response					
		Fully Correct		Partially Correct		Not Correct	
		f	%	*f*	%	*f*	%
1	Field preparation	31	25.83	54	45.00	35	29.16
2	Improved variety	31	25.83	83	69.16	6	5.00
3	Seed and its treatment	17	14.16	84	70.00	19	15.83
4	Sowing time	50	41.16	66	55.00	4	3.33
5	Spacing	33	27.50	72	60.0	15	12.50
6	Fertilizers	12	10.00	63	52.50	45	37.50
7	Irrigation	72	60.00	33	27.50	15	12.50
8	Weeding and hoeing operations	39	32.50	61	50.83	20	16.66
9	Weed control	12	10.00	94	78.33	14	11.66
10	Diseases	43	35.83	73	60.83	4	3.33
11	Harvesting	30	25.00	88	73.33	2	1.66
12	Yield	28	23.33	54	45.00	38	31.66

From table.2, it can be seen that majority of the respondents had high level of knowledge on irrigation and medium level of knowledge on field preparation, improved variety, seed and its treatment, sowing time, spacing, fertilizers, weeding and hoeing operations, weed control, diseases, harvesting and yield.

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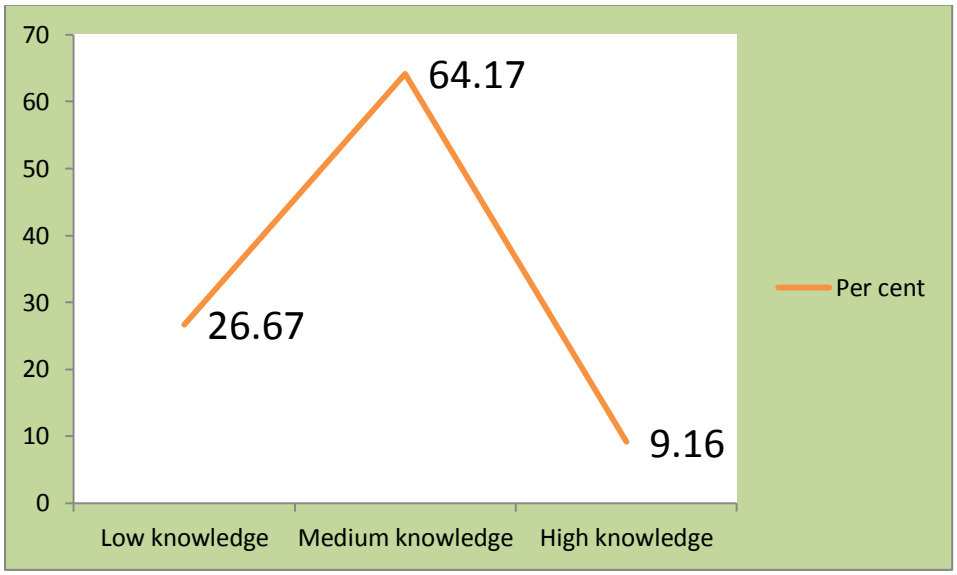
Table 3. Overall knowledge level of the respondents

S.No.	Category	Frequency	Per cent
1	Low knowledge	32	26.67
2	Medium knowledge	77	64.17
3	High knowledge	11	9.16

The results regarding overall knowledge about the cultivation of brinjal from the table 32, it can be interpreted that more than half of the respondents had medium level of knowledge (64.17%) on improved brinjal cultivation practices, followed by low (26.67%) and high level of knowledge (9.16%). The probable reason might be the interest in knowing about the recommended cultivation practices in brinjal and their eagerness to learn about new knowledge or technology which is related to brinjal cultivation. Somewhat similar results are found with the above results are Bennur (2011) and Gavade (2013).

Fig.1. Knowledge level of brinjal growers on brinjal production technology



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The relationship between the socio-economic profile and knowledge level of the brinjal growers was analysed and presented in table.3.

Table 4. Association between socio- economic profile and knowledge level of brinjal growers

S.No.	Variables	'r' value	Regression Co - efficient	Standard error	't' value
X_1	Age	0..277**	-.101	1.023	-.099
X_2	Educational status	0.525**	1.932**	.464	4.167**
X_3	Land holding	-0.049	-.588	1.841	-.319
X_4	Annual income	-0.072	.403	1.863	.216
X_5	Family size	0.031	0.087	0.136	0.641
X_6	Farm power	0.260**	.065	.063	1.034
X_7	Social participation	0.284**	.342	.853	.401
X_8	Scientific orientation	0.256**	-.665	.999	-.666
X_9	Extension contact	0.278**	-.182	.168	-1.086
X_{10}	Progressiveness	0.383**	.189	.153	1.238

R^2 value = 0.448 F = 3.927 a = 28.237

** = Significant at 1 % level

From table.3, it could be understood that the knowledge level of brinjal growers had significant and positive association with age, education, farm power, social participation, scientific orientation, extension contact and progressiveness. Meanwhile, land holding, annual income and family size had non-significant association with the knowledge level of brinjal growers. Thus, it implies that increase in age, increased educational status, increased farm power, increased participation of brinjal growers in organizations, scientific orientation, extension

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contact and progressiveness increases the knowledge level of the brinjal growers. Simultaneously, increase in annual income, land holding and family size does not affect the knowledge level of the brinjal growers.

Conclusion

It was concluded that the scope to increase the productivity of brinjal to its potential would substantiate the need for promotion of brinjal cultivation technology in the farmer's field. The present study concluded that majority of the respondents were middle age group, primary level of education having 1-2 acres of land holding, belonged to small family with low social participation. It was observed that maximum participation of brinjal growers in various field activities include field preparation, transplanting, irrigation, weeding and hoeing, raising the nurseries, harvesting. Eventually, the knowledge level of farmers should be increased in various aspects of brinjal production technology i.e. use of proper dose of fungicide, insecticide, fertilizers and manures through systematic training programme, which could be more effective in improving the productivity of brinjal production in future.

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