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Knowledge Level of Potato Growers in Nalanda District of Bihar

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ABSTRACT
The study was carried out in Nalanda district of Bihar. It was found that maximum number of potato growers had medium level of knowledge towards both the blocks. In case of Biharsarif block, 26.66 per cent of respondents were having low level of knowledge where as 20.00 per cent of selected respondents were possessing high level of knowledge. In case of Katrisarai block, 36.66 per cent of the respondents were shown low level of knowledge while only 13.34 per cent of respondents were fallen under the category of high levels of knowledge. The results of correlation coefficient and multiple regression analysis clearly indicated that the most important variables influencing the knowledge level of potato growers in relation to production technology were cropping intensity, economic motivation and extension contact.
Keywords: Knowledge, Potato growers, correlation& regression

INTRODUCTION

Potato, the king of vegetables, has emerged as one of the most important food crops of India. Potato ranks fourth after rice, wheat and maize. The power of potato is known for sustaining millions of lives by providing nutritious food in the time of war and hunger. The high production potential per unit area, high nutritional value and great taste make potato one of the most important food crops in our country. India produces about 36.58 million tones of potatoes from 1.84 million hectares with an average yield of 19.95 t/ha. Four major potato growing state viz. U.P., West Bengal, Bihar and Punjab alone account for 74 percent area and 84 percent potato production in the country. However, there are wide productivity gaps among various states ranging from 4.21 t/ha in Sikkim to 24.62 t/ha in Gujarat. At present Bihar ranks 3rd in potato area and production among different states of India. Potato productivity in our state is quite low due to several problems faced by the farmers in its cultivation. The present production of potato could be increased considerably if the available technology is effectively transferred to the farmer. The potato growers need to be properly trained in the latest improved cultivation practices for realizing more productivity and production of crops. Therefore the present study aims to ascertain the knowledge level of potato growers and to explore its relationships with selected socio- economic characteristics of the potato growers.

MATERIAL AND METHODS

Nalanda district of Bihar state has been identified as a locale of research enterprise in view of importance in terms of area and total production of potato crop. Out of 20 blocks, two blocks were selected on the basis of potato area. Biharsharif block having highest area and Katrisarai block having lowest area were selected as a locale of study. Further, from each block, two villages were selected randomly. A list of all potato growers with minimum of one acre area under potato cultivation was prepared. Fifteen potato growers were taken from each of the selected villages. Thus, a total number of 60 potato growers was constitute as the sample for the present study. The data were collected with the help of interview schedule. The data were analyzed using various statistical tools such as frequency, mean score and ranking.

RESULTS AND DISCUSSIONS
Knowledge level of farmers about recommended potato production technology
The respondents were classified into the three groups on the basis of knowledge about potato production technology score obtained by them. The data are presented in Table-1.

Table- 1. Block wise knowledge level of potato growers.

Sl. No.	Knowledge level		Biharsharif	Katrisarai	Pooled
1	Low	f	8	11	19
	(up to 16)	%	26.66	36.66	31.66
2	Medium	f	16	15	31
	(16 to 32)	%	53.34	50.00	51.67
3	High	f	6	4	10
	(33 and above)	%	20.00	13.34	16.67
	Total		100	100	60
	Mean		29.20	24.666	26.933

The perusal of table- 1 levels that majority of the respondents i.e. more than 50 percent had medium level of knowledge towards both of the blocks. In case of Biharsharif block, 26.66 percent of respondents were having low level of knowledge where as 20.00 percent of selected respondents were possessing high level of knowledge. In case of katrisarai block, 36.66 percent of the respondents were shown low level of knowledge while only 13.34 percent of respondents were fallen under the category of high levels of knowledge. The mean value also indicates that the respondents' farmers were having medium knowledge level. This finding is in tune of Kumar and Ramotra [1] who reported that maximum proportion of the respondents i.e. 41.00 percent potato growers possessed medium level of overall knowledge about scientific potato cultivation. The results of the present study are also in conformity with the work of Rampal *et.al.* [2] and Singh et.al.[3].

Component wise knowledge level of potato growers
The relative knowledge level in the nine main areas of improved potato cultivation as perceived by the respondents has been presented here in Table-2.

Table- 2. Knowledge level of farmers about different components of potato production technology

Sl. No.	Main areas	Knowledge level (%)	Rank
1.	Use of improved seed	60.50	I
2.	Seed treatment	40.44	VII
3.	Sowing method and sowing time	54.00	II
4.	Manures & fertilizer management	50.25	III
5.	Irrigation and drainage	47.50	V
6.	Weed management	35.00	VIII
7.	Plant protection measures	34.00	IX
8.	Harvesting	48.33	IV
9.	Marketing& storage	46.14	VI

The findings indicates that the knowledge percent in four components, namely, use of improved seed, sowing method and sowing time, manures & fertilizer management and harvesting were relatively higher than the remaining components of improved potato production technology. Knowledge of any subject matter is influenced by the individual's interest in the subject matter and perception of the utility of subject matter/information in his/her situation as well as simplicity- complexity characteristics of the subject matter under reference. The seed treatment, weed management and plant protection measures were observed as the VIIth, VIIth and IX [th]rank respectively related with the least knowledge level among the potato grower. So, it was the obviously reason to perceived the first priority of these area of production technology in training programme. Similar results were also recorded by Dube *et. al.*[4].

Association of selected socio-economic characteristics with knowledge level of farmers
The coefficient of correlation of knowledge level with selected independent variables of respondents was worked out and results are presented through table. 3.

Table 3. Correlation matrix of knowledge level with independent variables

Sl. No.	Independent variables	Value of Correlation Coefficient(r)
1.	Age	-0.5720**
2.	Education	0.8183**
3.	Land holding	0.7546**
4.	Annual income	0.7111**
5.	Area under potato cultivation	0.7128**
6.	Cropping intensity	0.8174**
7.	Economic motivation	0.7814**
8.	Extension agency contact	0.8132**

*- Significant at 5 per cent level.
**- Significant at 1 per cent level.

Table shows that the knowledge level of respondents with respect to improved potato cultivation was positively and significantly correlated with variables of education, size of land holding, annual income, area under potato cultivation, cropping intensity, economic motivation and extension contact. Hence the perusal of results indicated that above variables were relevant in determining the knowledge level of respondents. This finding supports the finding of Singh *et.al*.[5].

Table. 4. Multiple regressions of knowledge level of respondents with the variables under study

Sl. No.	Independent Variables	Regression coefficient	t- value	R^2
1.	Age	-0.0314	-2.37**	
2.	Education	0.4894	1.48	
3.	Land holding	0.3240	1.39	0.96744
4.	Annual income	-0.027	-0.33	
5.	Area under potato cultivation	-0.2485	-0.26	
6.	Cropping intensity	1.3235	5.79**	
7.	Economic motivation	0.9180	2.97**	
8.	Extension contact	0.4522	6.83**	

Table 4 shows that prediction potency of selected independent variables towards the knowledge level of respondents. The data coefficient along with corresponding t- value showed that the variables cropping intensity, economic motivation, extension agency contact and age emerged as the significant contributors towards the knowledge level because the data values pertaining to these variables were fond statistically significant. It can be concluded that these variables play significant role in acquisition of knowledge about improved potato production technology. All the selected variables taken together were fond accountable for 96.744 per cent variability towards the knowledge level of respondents.

CONCLUSION
Finally, the study concluded that maximum number of potato growers had medium level of knowledge towards both the blocks. Plant protection measures, weed management and seed treatment were the major area in which farmers needed more consideration .The variables education, size of land holding, annual income, cropping intensity, economic motivation and contact with extension agency were found to be positively and significantly associated with the knowledge level of potato growers. The cropping intensity, economic motivation and contact with extension agency were significant contributors towards knowledge level of potato growers. These variables should be kept in mind by policy makers and extension workers while formulating training programme for farming community engaged in potato cultivation.

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