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Research Article

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Technological Gap in Potato Cultivation in District Kannauj

Reema[1*], Poonam Singh[2] and Nimisha Awasthi[3]

*[1]Ph.D. Scholar,[2]Subject Matter Specialist,[3]Subject Matter Specialist

C.S.A. University of Agric. & Tech. Kanpur

*Corresponding Author E-mail: reemavandana@gmail.com

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ABSTRACT

Present study on technological gap in potato cultivation in district Kannauj was carried out on randomly selected one hundred twenty potato growers from Moosar and Tilpai village of Jalalabad block and Katkaiya and Tighera village of Talgram block of district Kannauj. Knowledge regarding recommended potato cultivation technology was measured by using knowledge test developed by Sharma et al., (1991) with minor modification. Adoption of recommended potato cultivation technology was measured by means of "Adoption intensity index". Overall technological gap was measured by using recommended technology and extent of adoption of technology. Analysis of data reveals that level of knowledge and extent of adoption was medium for 64.14 percent and 61.66 percent potato growers respectively. Technological gap was also medium for 67.50 percent potato growers. Significant correlation co efficient of education, size of land holding and annual income was observed with level of knowledge and extent of adoption.

Keywords: *Technological, Gap, Knowledge and Extent of adoption*

INTRODUCTION

Potato is most widely grown vegetable crop in the country with a share of 25.70 percent. The area under potato cultivation is 1.28 million hectare with total protection 22.49 million tonnes. Uttar Pradesh is the leading potato growing state in the country with a production of 9.93 million tonnes. In potato production Kannauj district is the highest producing area but in respect of average production has 8th place in Uttar Pradesh. Total area covered for potato is 36,000 hectare with its total production 8,90,000 mt/year (2007-08). The total productivity of potato per hectare is 250 qunitals. The present rate of agricultural production could be substantially increased if the available technologist are brought to bear with the production processes and programmes, focusing more and more on transferring new technologies away from the confines of laboratories and research institutes to the farmers and make them more result and work oriented (Raj, 1995).

Although a large number of research findings on scientific agriculture have been evolved but all of the have not been adopted by the farmers.

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This has resulted into a wide gap between available scientific knowledge in agriculture science and its practical application. This is mainly due to lack of technical knowhow, inputs availability at time and skill proficiency of potato growers. It has also been observed that even the farmers have the technical knowledge they restrict the adoption as they are unskilled in utilization of technology in the field.

MATERIALS AND METHODS

Study was conducted in Kannauj district of Uttar Pradesh. Moosar & Tilpai village of Jalalabad block and Katkaiya & Tighera village of Talgram block was randomly selected for the study. Thirty potato grower from each village was randomly selected comprising total Sample of 120 respondents. Knowledge about cultivation of improved potato technologies was measured by using knowledge test with minor modification Sharma et al. (1991). All the questions in knowledge test were having YES/NO or correct/incorrect. If the answer was Yes or correct the respondent was aligned score 1 and if the answer was No. or in correct the respondent was assigned a prove of Zero.

Adoption of recommended agricultural technology adoption intensity index. Conforming to the cultivation of potato was measured by means of "Adoption intensely index". Procedure was followed for fifteen selected practices under study.

Technological gap:- Gap was measured by using.

$$\textbf{T.G.} = \frac{R.T. - EAT}{R.T.} \times 100$$

T.G. - Technological gap in percentage
R.T. - Recommended technology
E.A.T. - Existing level of adoption of the technology

Practice wise technological gap-

The technological gap in percentage of each practice was summed up and the mean was calculated accordingly. There after the mean (x) of each practice was furnished against that and thus the ranking was made of all 15 practices under study.

Overall technological gap:-

The technological gap in percentage reposted by all the respondents were summed up and overall mean and standard deviation were calculated. There for the technological gap categories were found out on the basis of following formula Viz.

Low = mean - S.D.
Medium = mean ± S.D.
High = mean + S.D.

RESULTS AND DISCUSSION

Table 1: Level of knowledge regarding potato production technologies

N=120

S.No.	Knowledge Level	No of respondents	
		Frequency	**Percentage**
1	Low (up to 27)	20	16.66
2	Medium (28 to 45)	77	64.16
3	High (Above 45)	23	19.16
	Total:-	**120**	**100.00**

Mean 36.48 SD=8.93

It is obvious from table that maximum 64.16 percent respondents were found in the medium category of knowledge level while 19.16 percent under high level and 16.66 percent under low knowledge Category .

Table 2: Extent of adoption regarding potato cultivation technologies
N=120

S.No.	Extent of adoption	No of respondents	
		Frequency	**Percentage**
1	Low (up to 21)	26	21.66
2	Medium (22 to 30)	74	61.66
3	High (Above 30)	20	16.66
	Total:-	**120**	**100.00**

Mean 25.76 SD=4.58

It is clear from table 2 that maximum 61.66 percent respondents were under medium level of adoption followed by 21.66 percent under low 16.66 percent index high adoption category.

Table 3: practice wise technological gap in potato cultivation technologies
N=120

S.No.	Practices of Potato production technologies	Percentage	Rank
1.	Selection of soil and preparation of land	31.57	XV
2.	Improved varieties and tuber quality	51.18	VIII
3.	Seed rate	44.65	IX
4.	Seed treatment	66.50	IV
5.	Time of sowing	35.70	XIV
6.	Method of sowing	44.00	VI
7.	Manures and fertilizers application	53.56	VII
8.	Water management	44.66	IX
9.	Inter cultural operation	57.91	V
10.	Weed control	81.66	III
11.	Time of manuring and fertilizers	56.66	VI
12.	Plant protection measures	84.07	II
13.	Crop rotation	39.58	XII
14.	Inter cropping	85.08	I
15.	Harvesting	38.22	XIII

It is apparent from table that out of 15 practices of potato cultivation technologies. The practice wise rank of technological gap in deckling order was observed 89.08 percent meter cooping 84.07 percent plant protection measures, 81.66 percent weed control, 66.50 percent seed treatment, 57.91 percent inter cultural operation, 56.66 percent time of managing & fertilizers, 53.56 percent manure & fertilizer application, 51.18 percent improved variety & tuber quality, 44.66 percent water management, 44.65%, seed rate 44.00%, method of sowing, 39.58%, Crop rotation, 38.22%, Harvesting, 35.70% time of sowing 31.57%, selection of soil & preparation of land

Table 4: Over all technological gap in potato cultivation technologies

N=120

S.No.	Technological gap	Number of respondents	
		Frequency	**Percentage**
1.	Low (up to 45)	19	15.83
2.	Medium (46-59)	81	67.50
3.	High (above 59)	20	16.66
	Total	**120**	**100.00**

Mean 51.99 SD=7.18

It is evident from that maximum 67.50 percent potato growers were having medium technological gap with score low 46-59 whereas 16.66 percent high technological gap with score above 59. Technological gap was low for only 15.83 percent potato growers with score up to 45.

Table 5: Co relation Co efficient between selected personal variable and level of knowledge, and extent of adoption regarding potato cultivation technologies

S.No.	Variables	Level of Knowledge	Extent of adoption	TG
1	Age	-0.2160	-0.1671	0.0341
2	Education	0.3714*	0.4711*	-0.3657
3	Caste	-0.890	-0.2249	0.0516
4	Size of land hold	0.3500*	0.5771*	-0.2920
5	Annual income	0.3271*	0.5301*	-0.1525

Variables like education, size of land holding and annual income were found to be significantly and positively correlated with level of knowledge and extent of adoption of practices of potato cultivation technologies and negatively with age and caste where as technologies and negatively correlated with education, size of land holding and annual income but positively with age and caste.

CONCLUSION

It can be concluded that the level of knowledge and extent of adoption was medium for majesty of potato growers. Highest technological gap was found in case of inter cropping and lowest in soil selection and preparation. Over package of gap between recommended and adopted package of practices of potato cultivation technologies was also found to be medium. Education, Land holding and annual income increases level of knowledge and extent of adoption also increases but technological gap decreases.

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