



## **Assess the Technological gap in adoption of potato production technology of respondents**

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### **ABSTRACT**

*India is second leading vegetable producing country in the world. Potato (*Solanum tuberosum* L.) is one of the major vegetable crops of the world. The present investigation was conducted with the objective to know the technological gap in adoption of potato production technology. Two blocks of viz., Bharpura and Mahewa of Etawah district, selected purposively. Two hundred respondents were selected from the ten villages, 20 respondents from each village. The study revealed that the maximum respondents (65%) were found possessing a medium level of knowledge followed by 20 percent and 15 percent respondents who had a high and low level of knowledge gap about potato production technology respectively. The mean of scores was found to be 28.30 percent with a range of minimum 18 and maximum 41 percent. On the basis of above discussion, it can be used that above sixty percent respondents medium level of knowledge gap regarding potato production technology. The overall technological gap index was calculated to be percent. It can be said that the extent of technological gap about potato production technology seemed to be not much. The highest technological gap was reported in the practices like space between post-harvested management because of this practice due to scientific knowledge. The other practices also gave almost same scenario so for as gap was concerned.*

*Keywords: Potato, adoption, technological gap*

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### **INTRODUCTION**

Potato (*Solanum tuberosum* L.) is one of the major vegetable crops of the world. It is an important crop grown in the winter season in plains of India its productivity varies considerably between the regions, between the area within a region and with the cultured practices even at high fertility level. Among the food crops, it ranks fourth in important next only to rice, wheat and corn covering about 21.22 million hectare and fifth in production yielding about 309.5 million tones after sugarcane, rice and maize. It is a crop of the temperate region. It has acclimatized itself to a wide range of climate condition. The temperature requires during the growth period of the potato is 18-20°C. The potato is grown in sandy to medium loam having pH range from 5.2 to 6.4.

Etawah district is the largest producer of potato but lack of the productivity and quality produce could not meet because of the traditional farming practices. The Etawah district produced 30 to 40 % less yield comparatively to the neighbour districts namely, Kannauj, Farrukabad and other high yielding district and research stations. This is a mainly due to lack of new technology developed by different research stations. Nowadays there is a shift towards commercialization of agriculture and farmers are giving importance to commercial crops rather than other food crops. Vegetable cultivation is one such commercial field, which yields more income to the farmers. Poor farm management practices are applied to the vegetable cultivation in India. The transfer of agricultural technology is in operation throughout the country, but the technology had not yet reached the grass root level.

The transfer of agricultural technology is in operation throughout the country, but the technology had not yet reached the grass root level. Knowledge about any practice plays an important role in its adoption. Therefore, for the adoption of technology, knowledge is the pre-requisite. The adoption of recommended cultivation practices by farmers is conditioned by many factors that interact with each others. In such

situation, it was thought essential to know which of these factors influenced the adoption behaviour of cauliflower grower. Similarly extension workers have to play a more vital role to educate the farmers to take up cauliflower production on their farms.

## MATERIALS AND METHODS

The district Etawah is located in central in Kanpur division of U.P. Etawah is located between 26.77' north latitude and the meridians 72.02' east longitude. This district surrounded western by the city Agra, and Firozabad . on the south by Jaloun and Bhind (M.P), the city is flanked for a short distance by city Mainpuri and remaining distance by the Kannauj and on the eastern district of Auraiya.

The district Etawah has 7 tehsils. And 8 development blocks covering a small fraction of rural living as detailed below: Out of total reported area for land utilization in the district Etawah 225281ha. The net area sown during the year 2015-2016 was 148000 ha. Which was 67.60% of the total reported area in the same year during Kharif crops, whereas the cropped area during the rabi season was 216060 ha of the net sown, respectively. The cropping intensity was 155% which is more than the average of whole U.P. state [1].

Etawah sadar has two Communities developmental block, and Bharthana tehsil has four communities developmental block out of these, selective blocks namely Barhpura and mahewa have been selected for the study, purposively. Barhpura Community development block was established in the year 1962 and divided into six village development officer's circle for effective implementation of development programmes. This block constitutes 10 Nyay Panchayat, 69-gram panchayat and 113 villages, covering an area of square k.m. The total population of the block according to 2011 census was 156881, out of this 79603 Where male 77272 and females. From literacy point of view 69.233% were male and 37.32% females. Mahewa Community development block was established in the year 1958 and divided into six village development officer's circle for effective implementation of development programmes. This block constitutes 11 Nyay Panchayat, 69-gram panchayat and 109 villages, covering an area of 2522 square KM. The total population of the block according to 2011 census was 155532, out of this 80430 Where male 75102 and females. From literacy point of view 64% were male and 34% females.

### Sampling design and selection of the respondents:

The Ex-post facto design was used to see the role of potato production grower rural farmers. For this, the lists of all the farming families (having potato grower) of each selected village were prepared. A sample of 200 farmers was selected through random sampling technique from the list of 10 selected villages of both the blocks equally.

## RESULTS AND DISCUSSION

A critical at the Table-1 focuses that the maximum of the respondents (65%) were found possessing a medium level of knowledge followed by 20 percent and 15 percent respondents who had a high and low level of knowledge gap about potato production technology respectively. The mean of scores was found to be 28.30 percent with a range of minimum 18 and maximum 41 percent. On the basis of above discussion, it can be used that above sixty percent respondents medium level of knowledge gap regarding potato production technology.

It is clear from the data presented in the Table 2 that among 13 practices of potato production technology highest technological gap (21.25) post harvest management was observed in between Spacing followed by land preparation, disease observed (16.83%), irrigation management (16.75), seed rate (15.00), varmicompost (15.00%), high yielding varieties (12.66), plant production measure (12.33%), harvesting and marketing (12.25%) sowing type (10.75%), seed treatment (10.00%), fertilizer management (5.5%), and use of natural resource (5.5%) respectively.

The overall technological gap index was calculated to be 13.14 percent. It can be said that the extent of technological gap about potato production technology seemed to be not much. The highest technological gap was reported in the practices like space between post-harvest management because for this practice the farmer cannot mention of the due to scientific knowledge. The other practices also gave almost same scenario so far as gap was concerned.

It is clear from the data presented in the Table 3 that among 9 practices of potato production technology highest technological gap (35.00%) was observed in between Spacing followed by Plant growth regulator (33.00%), High yield varieties (20.75), Plant production measure (15.00%), Harvesting and marketing (13.16%), field preparation (13.00%), fertilizer application (12.75%) and irrigation management (6.33%). This is in conformity of Mishra *et al*.,[2].

The overall technological gap index was calculated to be 17.00 percent. It can be said that the extent of technological gap about potato production technology seemed to be not much. The highest technological

gap was reported in the practices like space between spacing because for this practice the farmer cannot mention of the distance in the tuber planter and might be due to scientific knowledge. The other practices also gave almost same scenario so far as gap was concerned. The technology gap, extension gap and the technology index were estimated by the formulae provided by Samui *et al*, [3].

**Table 1** Distribution of respondents according to extent of the knowledge gap.

N=200

S. NO.	Categories (%)	Respondents	
		Number	Percentage
1.	Low (up to 23)	30	15.00
2.	Medium (24 to 33)	130	65.00
3.	High and above	40	20.00
	Total	200	100.00

Mean = 26.00 , SD= 4.90, Range-min= 18, Max.= 41

**Table 2** Practices wise technological gap in Knowledge in potato production technology.

S. No.	Particulars wise technological gap	
	Practices	Gap (%)
1	Land preparation	17.00
2	Varieties cultivated	12.66
3	Sowing type	10.75
4	Seed rate ha	15.00
5	Seed / tuber treatment	10.00
6	Quantity of fertilizer management	5.5
7	Disease observed	16.83
8	Pest observed	12.33
9	Irrigation management	16.75
10	Use of natural resources	5.50
11	Use of vermicompost	15.00
12	Harvesting method	12.25
13	Post-harvest management	21.25
	<b>Average</b>	<b>13.14</b>

**Table 3** Showing practices wise technological gap in adoption in potato production technology.

S. No.	Particulars wise technological gap	
	Practices	Gap (%)
1	Field preparation	13.00
2	High yield varieties	20.75
3	Spacing	35.00
4	Fertilizer application	12.75
5	Plant growth regulator	33.00
6	Irrigation management	00
7	Intercropping and weed management	11.00
8	Plant production measure	15.00
9	Harvesting and marketing	13.16
	<b>Average</b>	<b>17.07</b>

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