



## **Study on Farmer Knowledge Extent To Potato Production Practices in Farrukhabad District (U.P.)**

**Amit Kumar Mishra<sup>1</sup>, R.K. Dohrey<sup>2</sup>, Roop Kumar<sup>1</sup>, Akshay Kumar<sup>1</sup>, Kshitijparmar<sup>1</sup>, Ravinder Kr. Pandey**

1- Ph.D. (Research Scholar), Deptt. Agricultural Extension, SVBPUA&T Modipuram, Meerut (250110)

2- Head and Professor, Deptt. Extension Education, NDUA&T Kumarganj, Faizabad (224229)

3- Ph.D. (Research Scholar), Extension Education, NDUA&T Kumarganj, Faizabad (224229)

**Correspondence email-** [meethcl@gmail.com](mailto:meethcl@gmail.com)

### **ABSTRACT**

*The present study was carried out during the year 2013-14 in Farrukhabad district of central Uttar Pradesh. Total 100 respondents from these 5 villages were selected by using proporsnate random sampling technique and data were collected by means of personal interview. The study revealed that overall(76.33 per cent)Knowledge of potato production technology to potato growers. The study further indicates that Material possession was found highly significant and positively correlated with knowledge extent. The variable like caste, family type, land holding, occupation, annual income, social participation and extent of contact with information sources were found positively correlated. Those variables, which showed the positive and significant relationship, had direct influence over knowledge extent about potato production technology.*

**Key words:** *Potato growers, Knowledge and Co-relation.*

Received 19.06.2018

Revised 20.07.2018

Accepted 21.08. 2018

### **INTRODUCTION**

Potato (*Solanum tuberosum* L.) is one of the major vegetable crops of the world. It is an important crop grown in 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. The original home of Potato is Andean plateau of South America. Potato is a most useful and important member of the family solanacea and it belong to genus Solanum, consist of seven cultivated and about 154 wild species but the commercially valuable potato has only two species i.e. *Solanum andignum* and *solanum tuberosum*. It has special value as food apart from starch which is rich source; it also provides essential body building substance such as vitamins, minerals and protein. Thus potato is one of the richest sources of calories needed to maintain day to day output of human energy per 200 gm. of edible portion of potato contain 22.6 gm. carbohydrate, 1.6 gm. Protein, 10 gm. calcium, 20 gm. magnesium, 247 gm. potassium, 17 gm. vitamin and 1.2 gm. nicotinic acid. It provides 87 gm. calories to human body. Potato can be cooked in many ways; they can be boiled, fried, roasted, baked or steamed, they can also be possessed into flakes, cubes, granules, chips, pan cakes etc. They are good for breakfast, lunch and dinner. Keeping in view the above facts, it was aimed to study the socio economic status of the Potato growers in Farrukhabad district of U.P.

### **MATERIAL AND METHODS**

This study was conducted in Farrukhbad district during the year 2013-14. Farrukhbad district comprise of 7 blocks in which one blocks namely Kayamganj were purposively selected. Five villages from Kayamganj blocks were purposively selected and 100 potato growers were selected from all villages. Thus the total sample size was of 100 respondents. The data were collected through personal interview

with the help of pre structured schedule. The data were analyzed and find out the percentage and rank order.

**Tabular analysis** for comparison and interpretation of various aspects, viz. assessing the extent of knowledge, socio-economic status of Potato growers and constraints responsible, tabular analysis was used.

**Percentage** Simple comparison has been made on the basis of percentage. For obtaining percent, the frequency of a particular cell was multiplied by 100 and divided by the total number of respondents in that particular category to which all of them belonged. The formula used to calculate the percentage is given below-

$$\text{Percentage} = \frac{\text{Frequency}}{\text{No. of respondents}} \times 100$$

## RESULT AND DISCUSSION

**Table 1: Extent of Knowledge:**

S.No.	Practices	Number of respondents	Percentage
1.	Field preparation	85	85.00
2.	Seed rate	95	95.00
3.	Time of application of manures and fertilizers	94	94.00
4.	Harvest and post-harvest technology	65	65.00
5.	Sowing time	90	90.00
6.	Irrigation	65	65.00
7.	Spacing	55	55.00
8.	Amount of manures and fertilizers	52	52.00
9.	Intercultural operations	70	70.00
10.	Seed treatment	65	65.00
11.	Improved varieties	100	100.00
12.	Plant protection measures	80	80.00

It is obvious from the (Table 1) that among all 12 agricultural practices of crop production, improved varieties (95%), Field preparation (85%), Plant protection measures (80%), Sowing time (90%), Intercultural operations (70%) will be rank at 1<sup>st</sup> as far as knowledge possessed by the respondents will be concerned. The practice like application of Seed rate (95%), followed by Time of application of manures and fertilizers (94%), Irrigation (65%), Seed treatment (65%), Spacing rank (55%), Amount of manures and fertilizers (52%) and Harvest and post-harvest technology at (65%). The overall knowledge index will be calculated to be 76.33%. It can be calculated that the extent of knowledge about agriculture production technology seems to be satisfactory.

**Table-1.1. Distribution of respondents according to Knowledge extent about improved varieties Potato.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Early sowing varieties	23	23.00
2.	Normal sowing varieties	50	50.00
3.	Late sowing varieties	27	27.00
<b>Total</b>		<b>100</b>	<b>100.00</b>

It is evident from the (Table- 1.1) that Maximum numbers of respondent (50%) were reported that they did Knowledge normal sowing varieties. The rest of respondents were reported using late sowing varieties (27%) and early sowing varieties (23%). Therefore, it is said that the farmers of this area rarely know the improved varieties of potato.

**Table-1.2. Distribution of respondents according to Knowledge of field preparation.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	When did you plough your potato field first	58	58.00
2.	Before sowing of potato seed, how many ploughings did you do	27	27.00
<b>Total</b>		<b>85</b>	<b>85.00</b>

The (Table 1.2) indicates the position of field preparation by the respondents. First ploughings time of potato observed (58%) and before sowing of potato seed, how many ploughing (27%) respectively. Hence it may be aid that field preparation many potato grower Know.

**Table-1.3. Distribution of respondents according to Knowledge of seed rate.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	For early sowing	10	10.00
2.	For normal sowing	70	70.00
3.	For late sowing	15	15.00
<b>Total</b>		<b>75</b>	<b>75.00</b>

It is evident from the (Table- 1.3) That Maximum numbers of respondent (70%) were reported that they did know for normal sowing. The rest of respondents were reported using for late sowing (15%) and for early sowing therefore, it is said that the farmers of this area rarely use scientific seed rate of potato

**Table-1.4. Distribution of respondents according to Knowledge of seed treatment.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Which fungicide did you apply to treat the potato seed?	40	40.00
2.	How much Fungicide did you use to treat one kg of seed?	15	15.00
3.	For how many hours before sowing, you treated the seed with fungicide?	10	10.00
<b>Total</b>		<b>65</b>	<b>65.00</b>

The data presented (Table-1.4) that maximum number of respondents (40%) reported that their adopt hormone for seed treatment and how much are followed by (15%) and respondents adopted how many hour before sowing, treated the seed with hormone (10%) respondents respectively.

**Table-1.5. Distribution of respondents according to Knowledge of time of sowing.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Early sowing	10	10.00
2.	Normal sowing	60	60.00
3.	Late sowing	20	20.00
<b>Total</b>		<b>90</b>	<b>90.00</b>

It is evident from the (Table- 1.5) that Maximum numbers of respondent (60%) were reported that they did know for normal sowing. The rest of respondents were reported using for late sowing (20%) and for early sowing (10%). Therefore, it is said that the farmers of this area rarely use scientific time of sowing of potato.

**Table-1.6. Distribution of respondents according to Knowledge of spacing.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Row to row	30	30.00
2.	Plant to plant	10	10.00
3.	Depth	15	15.00
<b>Total</b>		<b>55</b>	<b>55.00</b>

It is evident from the (Table- 1.6) that Maximum numbers of respondent (30%) were reported that they did Know for Row to row spacing. The rest of respondents were reported using for depth (15%) and for plant to plant spacing (10%). Therefore, it is said that the farmers of this area rarely use scientific spacing of potato.

**Table-1.7 Distribution of respondents according to Knowledge of manures and fertilizers.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Manures are applied which and how much	12	12.00
2.	Fertilizers are applied which and how much	40	40.00
<b>Total</b>		<b>52</b>	<b>52.00</b>

The data presented (Table-1.7) that maximum number of respondents (40%) reported that their Know scientific fertilizer quantity and scientific manures quantity are followed by (12%) respondents respectively.

**Table-1.8 Distribution of respondents according to Knowledge of time of application of manures and fertilizers.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	FYM & Compost	34	34.00
2.	NPK & Sulphur	60	60.00
<b>Total</b>		<b>94</b>	<b>94.00</b>

The data presented (Table-1.8) that maximum number of respondents (60%) their Know NPK & Compost and adopted FYM & Compost, time of application of manures and fertilizers (34%) respondents respectively.

**Table-1.9 Distribution of respondents according to Knowledge of irrigation.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	At which time did you irrigate first?	35	35.00
2.	At which critical stage, you irrigate tour crop (days)?	30	30.00
<b>Total</b>		<b>65</b>	<b>65.00</b>

It is obvious from the (Table-1.9) over whiling majority (35%) of the respondents was knowing the timely irrigation and (30%) respondents timely give critical stage irrigation.

**Table-1.10 Distribution of respondents according to Knowledge of intercultural operations.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Basalin	40	40.00
2.	Metribusin	15	15.00
3.	Pendimethyl	15	15.00
<b>Total</b>		<b>70</b>	<b>70.00</b>

The (Table-1.10) shows that the know extent of intercultural operation. On an average the maximum number of respondents (40%) were adopt the Basalin and (15%) respondents Metribusin and pendimethyl are equally.

**Table-1.11 Distribution of respondents according to Knowledge of plant protection measures.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Actara and Plenum	10	10.00
2.	Monocrotofash 35Ec	40	40.00
3.	Aqequate	20	20.00
<b>Total</b>		<b>80</b>	<b>80.00</b>

The (Table-1.11) shows that the adopt extent of plant protection. On an average the maximum number of respondents (40%) were know the Monocrotofash, (20%) and (10%) respondents view of Aqequate and Actara and Plenum, respectively.

**Table-1.12 Distribution of respondents according to Knowledge of harvest and post-harvest technology.**

S.No.	Categories	Respondents	
		No.	Percentage
1.	Early maturity	15	15.00
2.	Normal maturity	30	30.00
3.	Late maturity	20	20.00
<b>Total</b>		<b>65</b>	<b>65.00</b>

It is evident from the (Table- 1.11) that Maximum numbers of respondent (30%) were known normal maturity. The rest of respondents were reported using late maturity (20%) and early maturity (15%).

Therefore, it is said that the farmers of this area rarely use the harvest and post-harvest technology of potato

**Table- 2. Correlation coefficient (r) between different variables and Knowledge.**

S. No.	Variables	Correlation coefficient
1	Age	0.079916
2	Education	-0.04766
3	Caste	-0.1217
4	Family type	0.065221
5	Family size	-0.03395
6	Housing pattern	-0.01107
7	Land holding	0.017486
8	Occupation	0.057071
9	Annual income	0.171277
10	Material possession	0.317322**
11	Social participation	0.050727
12	Extent of contact with information sources	0.12618
13	Scientific orientation	-0.10322
14	Economic motivation	-0.08054
15	Risk orientation	-0.09467

\*Significant at 0.05% probability level 0.197,\*\* Significant at 0.01% probability level 0.257

The (Table-2) focuses that out of 15 variables studied, the variables i.e. Material possession was found highly significant and positively correlated with knowledge extent. The variable like caste, family type, land holding, occupation, annual income, social participation and extent of contact with information sources were found positively correlated. Those variables, which showed the positive and significant relationship, had direct influence over knowledge extent about potato production technology. It meant that if the values of these variable increases, the knowledge extent of production technology will also increase.

## CONCLUSION

The study revealed that majority of the potato growers belonged to medium level of Knowledge. Most of potato growers were found in non-adaptor category in respect of certain important items like Seed rate, Sowing time and Field preparation. All the selected attributes of the potato grower's except age, education and caste showed positive and significant correlation with their adoption level. So as to enhance adoption level, it is necessary to involve the farmers in extension education programme. It would facilitate the dissemination of recent Practices.

## ACKNOWLEDGEMENT

Author is thankful to Dr. R.K. Dohrey, Professor and Head, Department of Extension Education, NDU&TKumarganj, Faizabad -224229 (U.P.) India for his kind guidance, motivation and unconditional support for this work.

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## CITATION OF THIS ARTICLE

A K Mishra, R.K. Dohrey, Roop Kumar, Akshay Kumar, Kshitij Parmar, Ravinder Kr. Pandey. Study on Farmer Knowledge Extent To Potato Production Practices in Farrukhabad District (U.P.). *Bull. Env. Pharmacol. Life Sci.*, Vol 7 [10] September 2018: 82-86