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Extent of adoption of tomato cultivation technology among the farmers of Varanasi district (Uttar Pradesh)

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Abstract

Knowledge plays an important role in the field of agricultural development by informing the farmers about new technique in tomato crop. It helps to narrow the gap between research result and their application by the farmers. A stage has come where one can not apply yesterday's methods today and be in business tomorrow. Adoption behaviour of respondents was studied in regard to improved chickpea production technology. It was observed that majority of the tomato growers had 54 per cent respondents belong to low level of adoption group.

Key words- Technique, business, informing

Introduction

Agriculture is the milestone in the history of human civilization. Due to agriculture man settled at a particular place. Agriculture is one of the oldest and prime activities of the human being. It has remained an important source of land. In spite of growing industrialization and urbanization in the world, nearly fifty per cent working population is still engaged in agriculture. In developing countries agriculture sector has been a major source of employment and it has contributed to the national economy. Tomato *(Lycopersicon esculentum* Mill.) belongs to the genus Solanum under Solanaceae family (2n=2x=24), Origin: South America, Edible part: Fruit. It is also called "Poor man's Orange "India, "Love of apple"England, self-pollinated (chasmogamy), anther dehisce longitudinally, in florescences: forked racemose cyme, book "tomato" Kallo (1986) father of tomato in India , father of tomato breeding Rick It's Common names are tomate (Spain, France), tomat (Indonesia), faanke'e (chine), Jitomate (Maxico), Pomodoro (Italy). Tomato is one of the most popular and widely grown vegetable in world. Its many forms are adapted to wide range of soils and climate. Tomato is one of the most important vegetable worldwide. World tomato production in 2018 was about 182.3 million tons of fresh fruit from an estimated 3.9 million ha. It is relatively a short duration crop and gives a high yield it is economically attractive and it's area under cultivation is increasing. 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 vegetable has become an essential requirement of the daily human diet, because of

its nutritional value. Regular use of vegetable provides us most of the essential health building and protecting substances such as vitamins and minerals. In India where vegetarianism has been a way of life since the early days of recorded history, the problem of under-nutrition and malnutrition can only be solved through balanced diet for which vegetables are essential component of the daily diet.

Research methodology

The state of Uttar Pradesh was selected purposively as the researcher belongs to this state and is familiar with the local language which would help in building up better rapport with the respondent farmers. The study was conducted in Varanasi district of Uttar Pradesh. Varanasi is districts in the north Indian state of Uttar Pradesh with Varanasi city as the district headquarter. It is also called Kashi. According to Hindu mythology, it is one of the sacred places pilgrimage for Hindus as well as Buddhists. It is believed that Lord Shiva along with Parvathi as Vishwanatha and Vishalaakshi reside there to bless devotees. It is surrounded by Mirzapur district, Jaunpur district, Ghazipur district and Chandauli district. The Ganga (Ganges) river flows through the district. It is considered by Hindus to be sacred and pure river, having the ability to wash away sins when people take a dip in it. Part of the Varanasi division, the district occupies an area of 1,535 square kilometers (593 sq mi) including 1,371.22 km^2 rural area and 163.78 square kilometers and as of the 2011 census of India had a population of 3,676,841. This district is divided into three tehsils in Varanasi. The other two being Pindra and Raja Talab tehsils and 08 blocks Arajilines Block, Baragaon Block, Chiraigaon Block, Cholapur Block, Harhua Block, Kashividyapeeth Block, Pindra Block and Sewapuri Block.

The study was conducted purposively in Arajiline and Pindra block of Varanasi district due to maximum area under Tomato cultivation. After the selection of the Block, a block wise list of the tomato growing farmers was prepared and 60 farmers from each Block were selected randomly. Thus, the total sample was comprises of 120 farmers. The adoption behavior about tomato production technology refers to the extent of adoption of recommended improved farm practices. The questions were regarding improved varieties, seed rate, seed treatment, seedling, plantation time and methods, recommended dose of chemical, fertilizers, and plant protection etc. were selected. The weightage of 3 for complete adoption, 2 for partial adoption and 1 for no adoption of each practice was assigned. The respondents were classified into low, medium and high on the basis of mean ± S.D.

S. No.	Category	Scores
1.	Low	Below (Mean – SD)
2.	Medium	(Mean – SD) to (Mean + SD)
3.	High	Above (Mean + SD)

Results and discussion

Distribution of the respondents according to their age

The data of Table 1 reveal that out of 120 respondents the majority i.e.51.67 per cent were from middle age group, 35.00 per cent belonged to young age group, whereas, only 13.33 per cent be-

longed to old age group. Thus, it may be concluded that the maximum tomato growers were belonging to middle age (30 to 50 year).

Table 1 Distribution of the respondents according to their age

S. No.	Categories	No. of respondents	Percentage
1.	Young age (below 30 year)	42	35.00
2	Middle age (30 to 50 year)	62	51.67
3	Old age (above 50)	16	13.33
Total		120	100

Distribution of the respondents according to their education

The data of Table 2 reveal that out of 120 respondents the majority i.e. 28.33 per cent were from middle school, 20 per cent belong to high school, 20 per cent belonged to intermediate group, 15 per cent belonged to graduate & above, 10 per cent belong to primary school education group and 6.67 per cent belong to illiterate.

Table 2: Distribution of the respondents according to their education

S.No.	Education	No. of respondents	Percentage
1.	Illiterate	08	6.67
2.	Primary	12	10
3.	Middle	34	28.33
4.	High school	24	20
5.	Intermediate	24	20
6.	Graduate & above	18	15
Total		120	100

Distribution of the respondents according to their caste

The data of Table 3 reveal that out of 120respondents the majority i.e. 45.83 percent were from OBC, 29.17 percent belonged to general, whereas only 25 per cent belonged to SC categories.

Table 3: Distribution of the respondents according to their caste:

Sl.No.	Caste	No. of respondents	Percentage
1.	General	35	29.17
2.	OBC	55	45.83
3.	SC/ST	30	25.00
Total		120	100

Distribution of respondents according to their family type

The data presented in table 4 reveals that out of 120 tomato growers 39.16 per cent belonged to nuclear family, and 60.84 per cent belonged joint family.
Thus, it can be stated that maximum tomato growers 60.84 per cent were of joint family.

Table 4: Distribution of respondents according to their family type.

Sl.No.	Categories	No. of respondents	Percentage
1.	Joint family	73	60.84
2.	Nuclear family	47	39.16
Total		120	100

Distribution of the respondents according to their land holding

The data of Table 5 reveal that out of 120 respondents the majority i.e.85.00 per cent were from low group, 10.88 per cent belonged to middle group, whereas, only 4.17 per cent belonged to high land holding.

Table 5: Distribution of the respondents according to their land holding.

Sl. No.	Land holding	No. of respondents	Percentage
1.	Small (below 2 acre)	102	85.00
2.	Medium(2-4acre)	13	10.83
3.	Large (above 04 acre)	05	4.17
Total		120	100

Distribution of the respondents according to their income

The data of Table 6 reveal that out of 120 respondents the majority i.e. 44.17 per cent were from low income group, 30.83 per cent belonged to medium income group, whereas only 25.00 per cent belonged to high income group.

Table 6. Distribution of the respondents according to their income

Sl. No.	Income	No. of respondents	Percentage
1.	Low (<46000 Rs)	53	44.17
2.	Medium (46000-66000 Rs)	37	30.83
3.	High (>66000 Rs)	30	25.00
Total		120	100

Knowledge level of tomato growers towards improved production technology

The data of Table 7 reveal that out of 120 respondents, the majority i.e.55.83 per cent were from medium level of knowledge group, 20.83 per cent belonged to low level of knowledge group and 23.34 per cent respondents belong to high level of knowledge group.

Table 7. Distribution of the respondents according to Knowledge level

Sl. No.	Knowledge level	No. of respondents	Percentage
1.	Low (below 43.07)	24	20.83
2.	Medium (43.07-56.23)	67	55.83
3.	High (above 56.23)	25	23.34
Total		120	100

Extent of adoption of tomato cultivation technology by the farmers

The data of Table 8 reveal that out of 120 respondents, majority i.e.54.17per cent respondents were from low-level of adoption group, 24.17 per cent belonged to high and 21.66 per cent respondents belong to low level of knowledge group.

Table 8: Distribution of the respondents according to adoption level:

Sl. No.	Adoption level	No. of respondents	Percentage
1.	Low (below 41.12)	65	54.17
2.	Medium (41.12-52.14)	29	24.17
3.	High (above 52.14)	26	21.66
Total		120	100

Conclusion

Most of respondents had 52 per cent belong to middle age, most of tomato growers refer to middle school which is percentage of 28 %, most of the respondents possessed OBC (44 %) category, most of the respondents had joint family type (83 %), most of the respondents were engaged in farming (44 %), most of the respondents had low category (85 %) of land holding and majority of tomato growers had low category (44 %) of annual income. Knowledge level of respondents was studied in regard to adoption behaviour of tomato production technology. It was observed that majority of the tomato growers had 56 percent respondents belong to medium level of knowledge group. Adoption behaviour of respondents was studied in regard to improved chickpea production technology. It was observed that majority of the tomato growers had 54 per cent respondents belong to low level of adoption group.

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