

International Journal of Agriculture Extension and Social Development

Volume 7; SP-Issue 7; July 2024; Page No. 161-164

Received: 04-05-2024

Accepted: 15-06-2024

Indexed Journal

Peer Reviewed Journal

Adoption behaviour of farmers towards improved Tamenglong orange cultivation practices in Tamenglong District of Manipur

¹Jibankanta Haobam and ²Dipak Kumar Bose

¹PG Scholar, Department of Agriculture Extension Education and Communication, SHUATS, Uttar Pradesh, India

²Associate Professor, Department of Agriculture Extension Education and Communication, SHUATS, Uttar Pradesh, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i7Sc.815>

Corresponding Author: Jibankanta Haobam

Abstract

The present study was conducted to ascertain the adoption behaviour of farmers towards improved tamenglong orange cultivation practices in Tamenglong district of Manipur. The Tamenglong Block of Tamenglong District was selected purposively for the present study, descriptive research designed was applied. The primary data was collected from 120 respondents by personal interview which were selected randomly by using pre-structure interview schedule. Adoption of the farmers was measured by asking 15 questions in respect of Tamenglong orange cultivation. Finding showed that 52.50 per cent of the respondents have medium level of adoption of Tamenglong orange cultivation, followed by low level adoption i.e., 26.67 per cent and high-level adoption 20.83 per cent respectively. The relation between profile of the respondents and their adoption about improved Tamenglong orange cultivation practices the co-efficient correlation was revealed that independent variable like age, education, occupation, land holding, farming experience, annual income, mass media exposure, innovativeness, scientific orientation, risk bearing capacity and progressiveness are positively and significantly associated with adoption.

Keywords: Tamenglong orange, adoption behaviour, improved cultivation practices and Manipur

1. Introduction

The Tamenglong orange is also believed to be one of the best qualities of oranges found in the world. This unique fruit is found only in the Tamenglong district of the state of Manipur. Recently, Tamenglong orange received GI tag (Intellectual property of India, 2020).

Tamenglong Orange (*Citrus reticulata*), a species of mandarin group is unique fruit crop found only in the Tamenglong district of the state of Manipur. It is famous especially for its well-blended sweetness and acidity taste. Usually, each fruit contains 10-14 segments. The segments of the fruit are easily separable and the core is open at maturity. The fruits are loose skinned, smooth surface and orange in colour. The rind is thin and seeds are pointed with light green cotyledons. Tamenglong is not only the largest producer of oranges in Manipur, contributing over 50 percent of the state's annual production of nearly 10,000 to 11,000 metric tonnes, but is also believed that oranges found in Tamenglong are one of the best qualities in the world.

Orange is one of the important horticultural crops of Manipur. Manipur is considered to be one of the potential states for citrus genetic diversity since it is adjoining to Myanmar where maximum citrus diversity has been reported. In Manipur, mandarin, different strains of rough lemon and semi-wild Heiribob (*Citrus macroptera*) are grown. Mandarin orange is grown in different parts of Manipur, but the main centre of orange production is

Tamenglong district of Manipur which produces more than 80% of the total orange production of the state. The soil and the climate of Tamenglong hill district which is situated at an elevation of 1,260 m above sea level is favourable for orange growing and almost 40% of the total land mass is under orange cultivation.

2. Research Methodology

Descriptive research design was followed for this study as it describes the characteristics or phenomenon that is being studied. The study was conducted at Tamenglong block of Tamenglong District, of under Manipur state. Which were selected purposively. Three villages were selected randomly from this block and a total number of 120 respondents were selected through proportionately random sampling method.

2.1 Objectives

- To find the adoption level of improved Tamenglong orange cultivation practices by the respondents.
- To establish the relationship between the selected independent variables with adoption.

3. Result and Discussion

3.1 Socio Economic Characteristics of the Respondents

Table 1: Characteristics of the respondents (N=120)

Sl. No.	Attributes	Characteristics	F	%
1.	Age	Young (Below 35 years)	26	06.67
		Middle (36-55 years)	55	45.83
		Old (Above 55 years)	57	47.50
2.	Education	Illiterate	14	11.66
		Primary School	27	22.50
		High school	30	25.00
		Intermediate	32	26.67
		Graduate and above	17	14.17
3.	Occupation	Agriculture	30	25.00
		Agriculture + Labour	44	36.67
		Agriculture + Business	27	22.5
		Agriculture + service	19	15.83
4.	Land holding	Up to 1 acre	29	24.17
		1 – 2 acres	46	38.33
		Above 2 acres	45	37.50
5.	Farming experiences	Up to 5 years	14	11.67
		6-10 years	10	8.33
		11-15 years	50	41.67
		Above 15 years	46	38.33
6.	Annual income	Up to Rs 50,000	19	15.83
		Rs 50,001 to Rs 1,00,000	53	44.17
		Above Rs 1,00,000	48	40.00
7.	Mass media exposure	Low	46	38.33
		Medium	48	40.00
		High	26	21.67
8.	Innovativeness	Low	48	40.00
		Medium	49	40.83
		High	23	19.17
9.	Scientific orientation	Low	16	13.33
		Medium	53	44.17
		High	51	42.50
10.	Risk bearing capacity	Low	31	25.83
		Medium	45	37.50
		High	44	36.67
11.	Progressiveness	Low	21	17.50
		Medium	51	42.50
		High	48	40.00

The data presented in Table 1 revealed that 47.50% of the respondents are old age (Above 55 years) followed by 45.83 per cent middle age (36-55 years) and 06.67% of the respondents are of young age (Below 35 years). It also indicated that 36.67% of the respondents were educated up-to Intermediate level of education, 25.55% of the respondents had High School education, 22.50% of the respondents had primary school, 14.17% of the respondents had Graduate and above and 11.66% of the respondent were Illiterate. It was revealed that 36.67% of the respondents were engaged in agriculture + labour, 25.00% of the respondents were engaged in agriculture, 22.50% of the respondents were engaged agriculture + business, followed by 15.83% of the respondents were doing Agriculture + service. It was found that 38.33% of the respondent's had 1 – 2 acres, 37.50 of the respondents had above 2 acres of land and 24.17% of the respondents had up to 1 acre. It was revealed that 41.67 per cent of the respondent's had 11-15 years of farming experience followed by 38.33 per cent of the respondent had Above 15 years of experience, 11.67 of the respondents had 5 years of farming experience and

8.33% of the respondents had 6-10 years of farming experience. It was revealed that (44.17%) of the respondents had Rs. 50,001 to Rs 1,00,000 of income, 40.00 per cent of the respondents had above Rs. 1,00,000 of income and 15.83% of the respondent had up to Rs50,000 of annual income. It was found that (40.00%) of the respondents have medium level of mass media exposure followed by 38.33% of the respondents having low level of mass media exposure and 21.67% of the respondents have high level of mass media exposure. It was revealed that 40.83% of the respondents have medium level innovativeness followed by (40.00%) of the respondents having low level of innovativeness and 19.17 per cent of the respondents have high level of innovativeness. It was revealed that 44.17 per cent of the respondents have medium level of scientific orientation followed by 42.50% of the respondents having high level of scientific orientation and 13.33% of the respondents have low level of scientific orientation. It was revealed that (37.50%) of the respondents have medium level of risk bearing capacity followed by 36.67% of the respondents having high level of risk bearing capacity and

25.83% of the respondents have low level of risk bearing capacity. It was revealed that 42.50% of the respondents have medium level of Progressiveness followed by 40.00% of the respondents having high level of progressiveness and 17.50% of the respondents have low level of

progressiveness.

3.2 Adoption of the improved Tamenglong orange cultivation Practices by the respondents.

Table 2: Distribution of respondents based on adoption of improved Tamenglong orange cultivation practices: (N=120)

Sl. No.	Statement	Adoption		
		Fully Adopted F %	Partially Adopted F %	Not Adopted F %
1.	Land preparation.	80(66.67%)	29(24.17%)	11(9.17%)
2.	Type of soil.	71(59.17%)	32(26.67%)	17(14.17%)
3.	Sowing season	76(63.33%)	36(30.00%)	8(6.67%)
4.	Planting method.	38(31.67%)	56(46.67%)	26(21.67%)
5.	Type of organic fertilizer used.	37(30.83%)	58(48.33%)	25(20.83%)
6.	Suitable time for pruning.	38(31.67%)	59(49.17%)	23(19.17%)
7.	Major pest.	16(13.33%)	55(45.83%)	49(40.83%)
8.	Practice of intercropping operation.	35(29.17%)	31(25.83%)	54(45.00%)
9.	Proper irrigations.	19(15.83%)	40(33.33%)	61(50.83%)
10.	Biological control.	0(0.00%)	11(9.17%)	109(90.83%)
11.	Type of growth regulator.	3(2.50%)	19(15.83%)	98(81.67%)
12.	Harvesting after attaining.	83(69.17%)	30(25.00%)	7(5.83%)
13.	Harvesting method.	91(75.83%)	21(17.50%)	8(6.67%)
14.	Post harvest technology.	17(14.17%)	59(49.17%)	44(36.67%)
15.	Harvesting time.	101(84.17%)	13(10.83%)	6(5.00%)

The above table 2 reveals that majority (66.17%) of the respondents fully adopted recommended land preparation, 24.17% of the respondents does partially adopted and 9.17% of the respondents does not adopted the recommended land preparation. It was observed that majority (59.17%) of the respondents fully adopted suitable soil for Tamenglong orange cultivation, 26.67% of the respondents partially adopted and 14.17% of the respondents does not adopted suitable soil for Tamenglong orange cultivation. It shows that majority (63.33%) of the respondents fully adopted sowing season of Tamenglong orange, 30.00% of the respondents partially adopted and 6.67% of the respondents does not adopted the sowing season time. It reveals that (46.67%) of the respondents partially adopted the propagation of Tamenglong orange, 31.67% of the respondents fully adopted and 21.67% of the respondents does not adopted the planting method. It reveals that (48.33%) of the respondents partially adopted the used of organic fertilizer, 30.83% of the respondents fully adopted and 20.83 per cent of the respondents does not adopted the used of organic fertilizer. It was observed that (49.17%) of the respondents partially adopted the suitable time for pruning,

31.67% of the respondent fully adopted and 19.17% of the respondents does not adopted the time for pruning. It was observed that (45.83%) of the respondents partially adopted the major pest of Tamenglong orange, 40.83% does not adopted and 13.33 per cent of the respondents fully adopted the major pest of Tamenglong orange. It revealed that (40.83%) of the respondent does not adopted the practice of intercropping operation, 25.83% partially adopted and 29.17% of the respondents fully adopted the practice of intercropping operation. It was revealed that majority (50.83%) of the respondents does not adopted the used of irrigation, 33.33% of the respondent partially adopted and 15.83% fully adopted the used of irrigation. It was found that majority (90.83%) of the respondent does not adopted

the used of biological control, 9.17% of the respondents partially adopted the used of biological control. It was revealed that majority (81.67%) of the respondents not adopted the used of growth regulator, 15.83 per cent partially adopted, 2.50 fully adopted the used of growth regulator. It shows that majority (69.17%) of the respondents fully adopted the harvested of orange fruits after attaining, 25.00 per cent and partially adopted and 5.83 per cent does not adopted the harvested of orange fruits after attaining. It was revealed that majority (75.83%) of the respondents fully adopted types of harvesting method, 17.50 per cent of the respondent partially adopted and 6.17 per cent of the respondents does not adopted harvesting method. It was observed that (49.17%) of the respondents partially adopted the used of post-harvest technologies, 36.67 per cent does not adopted and 14.17% fully adopted the used of post- harvest technologies. It was found that majority (84.17%) of the respondents fully adopted the harvesting time of Tamenglong orange, 10.83 per cent partially adopted and 5.00 per cent does not adopted the harvesting time of Tamenglong orange.

Table 3: Overall adoption level of the respondents towards improved Tamenglong orange cultivation

Sl. No.	Adoption level	Response	
		Frequency	Percentage
1.	Low (25-28)	32	26.67
2.	Medium (29-32)	63	52.50
3.	High (33-37)	25	20.83
Total		120	100.00

The data presented in Table 3 revealed that majority (52.50%) of the respondents have medium adoption level, 26.67% of the respondents have low level of adoption and 20.83% of the respondents have high adoption level. Similar finding was also reported by Jakkawad *et al.*, (2017) ^[4].

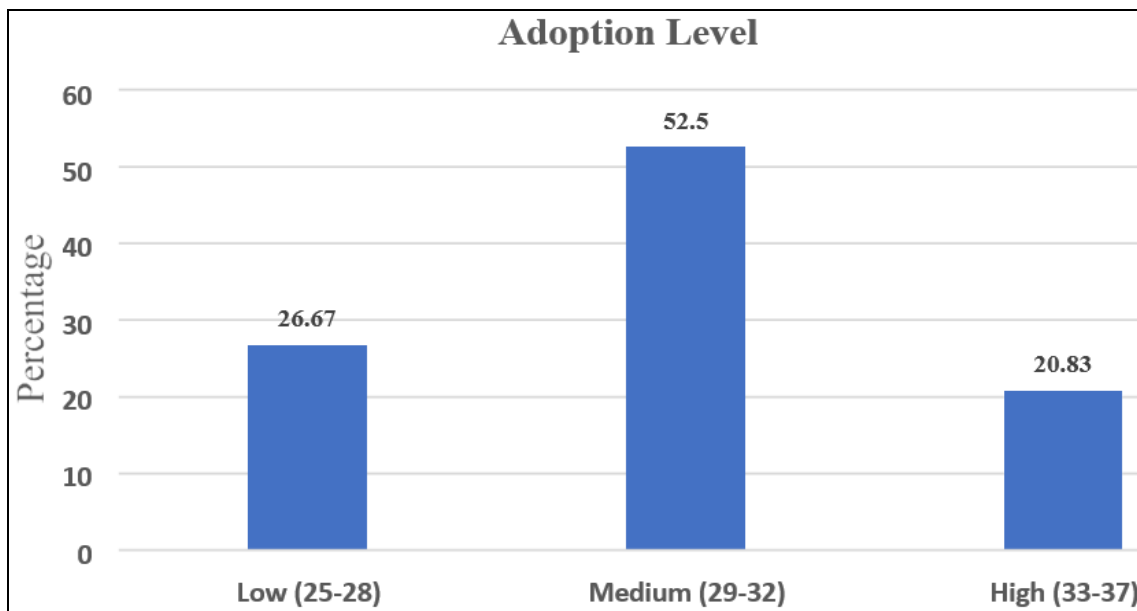


Fig 1: Overall distribution of respondents based on the adoption level of improved Tamenglong Orange cultivation practices

3.3 Association between Selected Independent Variables with the Adoption of the Respondents towards Improved Tamenglong Orange Cultivation Practices

Table 4: Association between selected independent variables and adoption

Sl. No.	Variables	Correlation Coefficient ('r' Value)
1.	Age	0.3084*
2.	Education	0.4569**
3.	Occupation	0.2325*
4.	Land holding	0.3913**
5.	Farming experience	0.3961*
6.	Annual income	0.4673*
7.	Mass media exposure	0.7031**
8.	Innovativeness	0.6958*
9.	Scientific orientation	0.3873*
10.	Risk bearing capacity	0.4020*
11.	Progressiveness	0.4264*

* = Significant at p = 0.05%, **= Significant at p = 0.01%, NS= Non-Significant

The data presented in Table 4 revealed that out of eleven independent variables, i.e. age, education, occupation, land holding, farming experience, annual income, mass media exposure, innovativeness, scientific orientation, risk bearing capacity, and progressiveness are positively and significantly correlated with adoption of farmers towards improved Tamenglong orange cultivation practices.

4. Conclusion

It is concluded that majority of the respondents had medium level of adoption followed by high and low in respective to the recommended practices. Subsequently all of the selected independent variables were positively significant with the adoption of the farmers towards improved tamenglong orange cultivation practices and Proper training should be given to the farmers for identification of pest and disease and better government support such as subsidies and loan to be provided for a better Cultivation Practices.

References

- Attar JR, Aski SG. Analysis of adoption of recommended cultivation practices by lime growers of north Karnataka. *Int. Res J Agric Econ Stat.* 2018;9(1):120-124.
- Gedam PC, Padaria RN. Study of gaps in adoption of improved orange production technologies in Maharashtra, India. *Asian J Agric Ext Econ Sociol.* 2023;41(9):586-593.
- Hiwarale AS, Manvar VS, Gohade GR, Hadollikar SB, Vaidya NG. Constraints faced by sweet orange growers in adoption of recommended cultivation practices of sweet orange. *Pharma Innovation.* 2023;12(1):1448-1449.
- Jakkawad SR, Sawant RC, Pawar SB. Knowledge and adoption level of the pomegranate growers in Aurangabad District of Marathwada Region of Maharashtra. *Trends Biosci.* 2017;10(24):5066-5069.
- Jain N, Choudhary S, Wankhede A, Barche S, Jain SK. Adoption behaviour of orange producer under National Horticulture Mission (NHM) at Shajapur district of M.P. *Int J Agric Environ Sci.* 2019;6(5):57-59.
- Kale NM, Ingole VS, Tingare AS, Khade AH, Jangwad NP, Kokate SD. Adoption of recommended cultivation practices by the mandarin growers. *Int J Curr Microbiol Appl Sci.* 2023;12(05):51-57.