FARMERS' KNOWLEDGE TOWARDS THE PROPAGATION OF OFF SEASON CUCUMBER IN MOKOKCHUNG DISTRICT OF NAGALAND, INDIA

ABSTRACT

The present study was carried out in Mokokchung district of Nagaland to analyze the knowledge level of the farmers towards the propagation of off season cucumber. Purposive and random sampling techniques were used for the selection of the respondents and a total of 120 respondents were selected from 3 village. A pre-structured interview schedule was used for the collection of data. The study revealed that majority of the respondents were middle-aged, literate individuals with nuclear families and small family sizes. Majority of them had farming experiences of between 10-20 years. It was revealed that most the farmers were small farmers based on the size of their lands and a large number of the respondents had medium level of income, had medium level of extension contact and mass media exposure. The level of knowledge regarding the propagation of off season cucumber practices was medium level. Majority of the respondents had proper knowledge about the recommended varieties of off season cucumber, sowing time, seed treatment, field preparation, method of sowing, spacing, harvesting, and weed management. However, the respondents were found to have partial knowledge in areas such as seed rate, recommended quantity of FYM, methods of irrigation, disease control, and pest control.

Key words: Knowledge, off season cucumber, socio-economic profile.

INTRODUCTION

"Cucumber (*Cucumis sativus L.*) belonging to the family of Cucurbitaceae is one of the oldest vegetable crop grown widely throughout India as well as tropical and sub-tropical parts of the world. The cucumber is a nutritious crop as its edible portion contains 96.3 per cent water, 2.7 per cent carbohydrates, 0.4 per cent protein, 0.1 per cent fat and 0.4 per cent mineral matters. It is also a good source of Vitamin B and C" **(Singh *et al.*, 2004)**. . In Hindi, cucumber is popularly known as **"Khira".(Gopalakrishnan, 2007).** Cucumber can be grown in the field as well as in the garden. It is commercially raised for home consumption. The seed of cucumber is highly nutritive due to their high oil and protein content. Seed protein of cucumber is comparable in nutritive value to those of legumes while methonine content is more in cucumber as compared to legumes. Nagaland, one of the eight states of the north east region is blessed with agro climatic condition and soil suitable for agriculture. India is the world's second largest vegetable and third largest fruit producer accounting for 8.4 per cent of the world's food and vegetable production. Indian farmers are engaged in cucumber cultivation, but in the earlier decades, cucumber was given less importance and area under

cultivation was also not encouraging but in the later years, sensing the potential of this crop, nutritionally as well as economically, the situation is different.

“Nagaland is also one of the states where cucumber is grown in all the districts. Cucumber has been grown by tribals in Nagaland for centuries. It is one of the most important crops of the North Eastern states and Nagaland ranks fifth in area under cultivation and third in production. The districts of Mokokchung, Mon, Wokha, Kohima and Peren produce some of the best varieties of cucumber in the world [Sentizungla et al, 2021]. “The total area and production of cucumber in the state accounted for 714 ha and 21617 metric tonnes during the 2016- 17 season. Many different local varieties of cucumber which are soft, juicy and have a sweet taste are grown throughout Nagaland. Naga cucumbers are a kind of fruits that differ in taste, shape and sizes from those available in other parts of India. Naga cucumbers are normally15 to 20cm in length and 14-16 cm in diameter. On an average 5-8 numbers of cucumber weigh one kg. Cucumber is grown in all the districts of the state with Mokokchung district leading in terms of area under cultivation (315 ha) as well as production (520 MT)” **(DHO Mokokchung, 2012).**

METHODOLOGY

This study was conducted in Mokokchung district under Nagaland. The block Ongpangkong (south) was purposively selected due to their highest production of off season cucumber.

There are nine villages under Ongpangkong (South) Block out of which three villages i.e., Chungtia, Aliba and Kinunger were selected based on their highest production of off season cucumber. A total of 120 respondents were selected for the study and the data were collected through pre structured interview schedule.

RESULTS AND DUSCUSSION

Table 1: Socio economic profile of the respondents

S.no	Independent Variables	Category	Frequency	Percentage
1.	**Age**	Young (18-35)	23	19.17
		Middle Age (36-55)	63	52.5
		Old (Above 56)	34	28.33
2.	**Education**	Illiterate	22	18.33
		Primary school	46	38.33
		High School	40	33.33
		Secondary School	7	5.83
		Graduation	5	4.17
3	**Family Type**	Nuclear	87	72.5
		Joint	33	27.5
4	**Family Size**	Upto 5 members	85	70.83
		More than 5 members	35	29.17
5	**Type Of House**	Hut	37	30.83
		Semi-cemented	60	50
		Cemented	23	19.17
6	**Annual Income**	Low (Below 60,000)	32	26.67
		Medium (60,000- 80,000)	75	62.5
		High (Above 80,000)	13	10.83
7	**Land Holding**	Marginal Farmer	42	35
		Small Farmer	57	47.5
		Medium farmer	16	13.33
		Big Farmer	5	4.17
8	**Farming**	Below 10 years	15	12.5

	Experience	10-20 years		732	60.83
		Above 20 years		32	26.67
9	**Extension Contact**	Low		39	32.50
		Medium		66	55.00
		High		15	12.50
10	**Mass Media Exposure**	Radio	Daily	0	0
			Sometimes	11	9.17
			Never	109	90.83
		Television	Daily	22	18.33
			Sometimes	59	49.17
			Never	39	32.5
		Newspaper	Daily	68	56.67
			Sometimes	42	35
			Never	10	8.33
		Magazines	Daily	0	0
			Sometimes	14	11.67
			Never	106	88.33

A majority of the respondents (52.5%) belonged to middle age group of 36-55 years **(Sindhura *et al*. 2022).** A majority of the respondents (38.33%) were found to be educated up primary school **(Ananda Shankar and Upendra Nath 2014)**. It was found that (72.5%) of the respondents were having nuclear family. Majority (70.83%) of the respondents belonged to family size of upto 5 members. Majority (50%) of the respondents were having semi-cemented house. It was also found that (62.5%) of the respondents were having annual income between 60,000-80,000 rupees. Majority of the respondents (47.5%) were found to be small farmers. The findings are in line with **Reshma *et al.* (2014)** Majority (60.83%) of the respondents were having farming experience of between 10-20 years. Further more, it was found that only (9.17%) of the respondents listen to the radio and majority (55%) of the respondents had medium level of extension contact. It was also found that (49.17%) of respondents watch television on a daily basis, (56.67%) of the respondents read newspaper, (11.67%) sometimes read magazine.

Table 2 :-Distribution of the knowledge level of the respondents about recommended Off Season Cucumber Cultivation Practices.

Sn	Statements	Knowledge level		
		Fully correct F (%)	**Partially correct**	**Not correct**
1	Varieties recommended	61 (50.83%)	33 (27.5%)	26 (21.67%)
2	Sowing time	96 (80%)	15 (12.5%)	9 (7.5%)
3	Seed treatment	34 (28.33%)	63 (52.5%)	23 (19.17%)
4	Seed rate	25 (20.83%)	54 (45%)	41 (34.17%)
5	Field preparation	94 (78.33%)	16 (13.33%)	10 (8.33%)
6	Method of sowing	114 (95%)	6 (5%)	0
7	Spacing	67 (55.83%)	45 (37.50%)	8 (6.67%)
8	Recommended quantity of FYM to be applied	41 (34.17%)	56 (46.67%)	23 (19.16%)
9	Methods of irrigation	87 (7 2.50%)	25 (20.83%)	8 (6.67%)
10	Weed management	72 (60.00%)	39 (32.50%)	9 (7.50%)
11	Disease control	42 (35.00%)	52 (43.33%)	26 (21.67%)
12	Pest control	33 (27.50%)	40 (33.33%)	47 (39.17%)
13	Harvesting	98	22	0

		(81.67%)	(18.33%)	

Table3: Overall level of knowledge of respondents towards off season cucumber

Sl.no	Level of knowledge	Frequency	Percentage
1.	Low (<30)	21	17.5
2	Medium (30-35)	74	61.67
3.	High (>35)	25	20.83
	Total	120	100.00

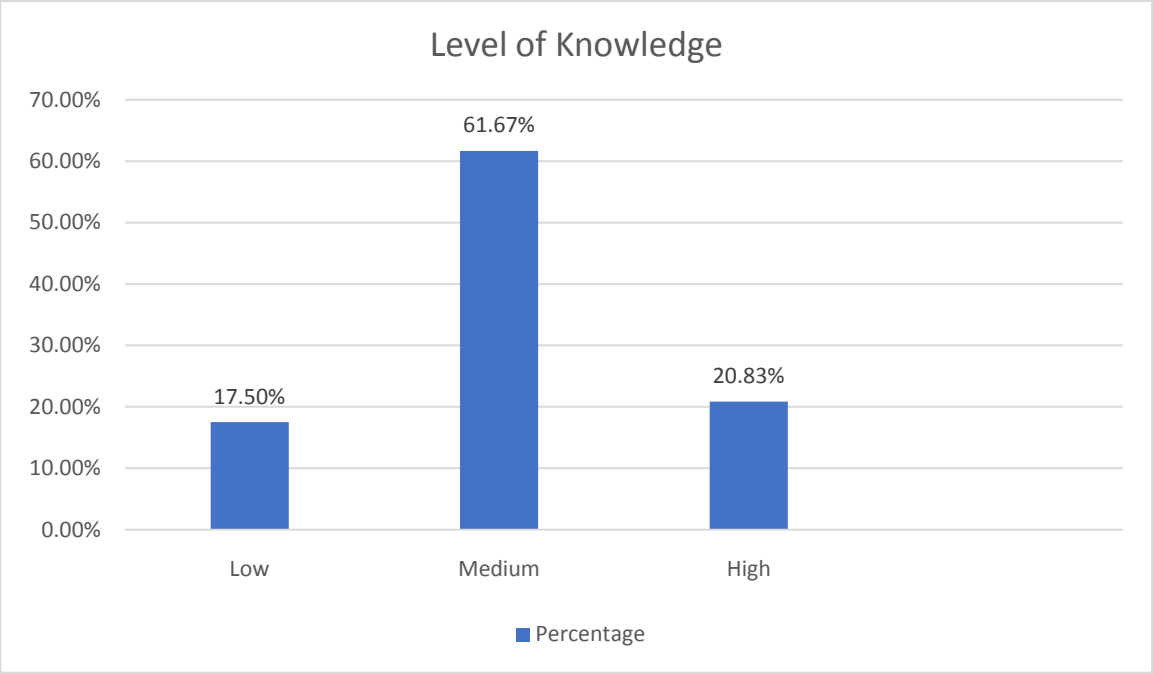

Fig 1: Knowledge of the respondents towards the propagation of off season cucumber

From the above table and figure, it is found that the level of knowledge of respondents of off season cucumber cultivation practices is medium 61.67% followed by high 20.83% and low 17.5% respectively. Similar finding is also reported by **Yadav *et al.*, (2013)**

Table 4 : Relationship between personal profile and knowledge level of respondents

S/no	Variables	Pearson's correlation coefficient

1	Age	0.979 *
2	Education	0.879 *
3	Type of family	0.024**NS**
4	Family size	0.068 **NS**
5	Type of house	0.899 *
6	Annual income	0.931 *
7	Land holding	0.638 *
8	Farming experience	0.975 *
9	Extension contact	0.848 *
10	Mass media exposure	0.869 *

*= correlation is significant at 0.01% of probability

**= correlation is significant at 0.05% of probability

NS= correlation is Non Significant

The formula of coefficient correlation was applied to find out the relationship between independent and dependent variables. Independent variables namely age (0.979), education (0.879), type of house (0.899), annual income (0.931), land holding (0.638), farming experience (0.975), extension contact (0.848) and mass media exposure (0.869) were found to be positive and significant at 0.01% level of probability with the level of knowledge towards off season cucumber cultivation practices. Type of family (0.024) and family size (0.068) had non-significant association with the level of knowledge towards off season cucumber practices.

CONCLUSION

The study concluded that the majority of respondents were middle-aged, literate individuals with nuclear families and small family sizes. The majority of responders had farming experience ranging from 10 to 20 years. A substantial proportion of those polled had a middle-class income. The majority of respondents had a medium level of extension interaction. A majority of respondents possessed a medium level of knowledge of off-season cucumber cultivation practices. Independent variables like age, education, type of house, land holding, farming experience, extension contact and mass media exposure had positive and significant correlation with knowledge towards off season cucumber cultivation practices at 0.01% of probability.

REFERENCES

Badgujar, C. D. (2014). Knowledge and adoption of the recommended package of practices for Banana crop. *Journal of Krishi Vigyan*, *2*(2); 85-87.

Bhajipale, D.D., Kharde, P.B and Karangami, R.S (2020). Knowledge of improved cultivation practices of watermelon by the respondents. *International Journal of Chemical Studies*, **8**(1): 1157-1160

Boruah, R., Borua, S., Deka, C. R. and Borah, D. (2015). "Entrepreneurial behavior of tribal winter vegetable growers in Jorhat district of Assam." *Indian Research Journal of Extension Education*, **15** (1) : 65-69.

Chetan, B.M. (2019) A Study On Knowledge And Adoption Of Paddy Seed Production Practices By The Farmers Of Davanagere District. *Int.J.Curr.Microbiol.App.Sci*. **9**(11): 3658-3661

Choudhary, M., Asiwal, B. L., & Dular, R. K. (2019). Knowledge level of farmers about improved production technology of onion crops in sikar district of Rajasthan. *Journal of Krishi Vigyan*, *8*(1), 191-196.

Jaiswal V, Singh K C, Kurmi J and Singh S. 2020. Entrepreneurial behavior of vegetable growers at Gangeo block of Rewa District (M.P.). *Jr. of Pharmacognosy and Phytochemistry, 9(3): 1688-1690*

Kolgane, B.T., S.R. Suramwad and R.V. Dound (2018). Study the entrepreneurial behaviour of pomegranate growing farmers in Solapur District of Maharashtra State. *Jr. of Pharmacognosy and Phytochemistry, SP1: 2956-2958.*

Kumar, V., Solanki, K.D. and Ghintala, A. (2018). Knowledge level of the Brinjal growers about the production technology of Brinjal of Banaskatha district of Gujarat. *Guj. J. Ext. Edu*. **29** (1): 128-131

Lotha, B., & Jha, K. K. (2022). Imperatives of Technology Adoption Among Farmers Growing Horticultural Crops in Wokha District of Nagaland. *Indian Res. J. Ext. Edu*. 22 (5): 35-39

Malla, A. K. (2019). A study on knowledge level of KVK trained vegetable growers. *Asian Journal of Agricultural Extension, Economics & Sociology*, *30*(3), 1-6.

Mohapatra, Ananda Shankar, and Upendra Nath Sahu (2012). "A study of socio-economic and entrepreneurial characteristics of Tribals of Mayurbhanj District in Sabai grass Enterprise." *International Journal of Managment, IT and Engineering* 2.5: 426-438.

Pongener, S., & Jha, K. K. (2020). Entrepreneurial behaviour of off season cucumber growers: An analysis. *Plant Archives*, *20*(1), 763-768.

PRASAD, H. V., & VENKATARAMULU, P. S. M. (2018). Study on farmers level of knowledge towards vegetable cultivation. *Young (up to 35 years)*, *7*(7), 4.

Reshma, A. B., Natikar, K. V., Biradar, N., Mundinamani, S. M., & Havaldar, Y. N. (2014). Entrepreneurial characteristics and decision making behaviour of farm women in livestock production activities. *Young (Upto 35 Years)*, *38*, 31-66.

Sindhura, K., Tekale, V. S., & Thakre, P. N. (2022). Socio-Economic Profile of Vegetable Growers in the Amaravati Division of Maharashtra, India. *Asian Journal of Agricultural Extension, Economics & Sociology*, *40*(12), 402-409.

Yadav, D.S., Singh, U., Kumar, A. and Katoch, A., 2013. Development of a test for measuring the knowledge level of women farmers in vegetable cultivation. *Journal of Human Ecology*, *41*(2), pp.113-117.

Sentizungla; Jahanara; Dipak Kumar Bose. Agri-Entrepreneural Behaviour of King Chilli Growers Under Dimapur District, Nagaland, Int. Journal of Advances in Agricultural Science & Technology, Vol.8 Issue.10, October-2021, pg. 148-157

.