International Journal of Humanities
and Social Sciences (IJHSS)
ISSN (P): 2319–393X; ISSN (E): 2319–3948
Vol. 11, Issue 2, Jul–Dec 2022; 71–78

International Academy of Science,
Engineering and Technology
Connecting Researchers; Nurturing Innovations

EXTENT OF KNOWLEDGE AND ADOPTION SELECTED CASHEW PRODUCTION TECHNOLOGY AMONG CASHEW GROWERS IN SRIKAKULAM DISTRICT OF ANDHRA PRADESH

Gayathri M[1] & Jahanara[2]

[1]Research Scholar, Department of Agricultural Extension and Communication, SHUATS, Prayagraj, India

[2]Professor and Head, Department of Agricultural Extension and Communication, SHUATS, Prayagraj, India

ABSTRACT

The study was conducted in Vanjrapukotthuru block of Srikakulam district, Andhra Pradesh. Both purposive and random sampling procedure was followed for selection of the district, blocks, villages and the respondents. The total sample size of the study was 120. The response was obtained from each individual respondent in a structured interview. The study revealed that the majority (54.16%) Cashew growers were the medium knowledge level. Regarding adoption, the majority (50.83%) Cashew growers were below the medium adoption level. The independent variables namely Age, Education, Farm holding, Farm experience, Annual income, Scientific orientation, Mass media exposure, Market orientation, Risk orientation, extension contact was positive and significant relationship with knowledge and adoption level obtained from correlation study, Whereas Family size showed positive and non-significant with knowledge and adoption level of cashew growers at 1 percent level of significance.

KEYWORDS: *Knowledge, Adoption*

Article History

Received: *27 Jul 2022* **|** ***Revised:*** *02 Aug 2022* **|** ***Accepted:*** *03 Aug 2022*

INTRODUCTION

Cashew (*Anacardium occidentale* L.) a native of Eastern Brazil, was introduced to India just as other commercial crops like Rubber, Coffee, Tea etc. by the Portuguese nearly five centuries back. Cashew became one of the important plantation crops with its significant contribution to the country's foreign exchange through export of processed cashew kernels and Cashew Nut Shell Liquid (CNSL). India is the largest area holder of this crop. Among the Agri-Horticultural commodities getting exported from India, cashew ranks the 2nd position. **(Balarubini *et al*., 2014)**

Maharashtra tops first in terms of production among the other major cashew growing states of India followed by Andhra Pradesh and Odisha. Tamil Nadu stands sixth in cashew production in the country. In India cashew was cultivated in about 1062.04 million ha. Commercial cultivation of cashew is taken up in eight states of our country mainly in west and eastern coast viz., Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa, Tamil Nadu and West Bengal. In addition, cashew is also grown in few pockets of Assam, Chhattisgarh, Gujarat, Meghalaya, Nagaland and Tripura. The Western coastal States, i.e., Goa, Kerala, Karnataka and Maharashtra in the west coast and Andhra Pradesh, Tamil Nadu, Orissa and West Bengal in the eastern coast of India, are the main producer of cashew nut in the country. **(Anusuya *et al*., 2020)**

RESEARCH METHODOLOGY

The research design opted for the study is descriptive research design. This type of design is opted generally when the researcher wants to study the current situation in a descriptive manner. The present study was conducted in Srikakulam district of Andhra Pradesh, from Srikakulam district Vajrapukotthuru Mandal was selected purposively based on considerable number of respondents. From Vajrapukotthuru Mandal a total of Eight villages i.e., Pollada, Suryamani Puram, Pathatekkali, Ramakrishnapuram, Peddamuraharipuram, Pudijagannadhapuram, Vajrapukotthuru, and legally were selected randomly for the selected present study.

OBJECTIVES OF THE STUDY

- To ascertain the Knowledge level of Cashew growers in selected cashew production technology
- To ascertain the Extent of Adoption of Cashew growers in selected cashew production technology

RESULTS AND DISCUSSION

Table 1: Knowledge Level of Cashew Growers in Selected Cashew Production Technology

S. No	Particulars	Response		
		Fully Correct	Partially Correct	Not Correct
1	Suitable soils for cashew cultivation	30 (25.00%)	77 (64.16%)	13 (10.83%)
2	Sources of planting material	45 (37.5%)	65 (54.16%)	10 (8.33%)
3	Appropriate age of cashew grafts selected for planting	37 (30.83%)	69 (57.50%)	14 (11.66%)
4	Recommended pit size for planting cashew grafts	39 (32.50%)	68 (56.66%)	13 (10.83%)
5	Recommended spacing for cashew planting	49 (40.83%)	54 (45.00%)	17 (14.16%)
6	Recommended quantity of FYM to be applied in pit before planting	49 (40.83%)	51 (42.50%)	20 (16.66%)
7	Recommended quantity of SSP to be applied per pit before planting	38 (31.66%)	54 (45.00%)	28 (23.33%)
8	Recommended quantity of Neem cake to be applied per pit before planting	23 (19.16%)	65 (54.16%)	32 (26.66%)
9	Recommended quantity of Urea to be applied per tree per year	41 (34.16%)	59 (49.16%)	20 (16.66%)
10	Recommended quantity of Single Super Phosphate to be applied per tree per year	35 (21.16%)	65 (54.16%)	20 (16.66%)
11	Recommended radial distance from the tree trunk for fertilizer application	25 (20.83%)	57 (47.50%)	38 (31.66%)
12	Stem and Root Borer is more prevalent in trees of above 7 years	40 (33.33%)	55 (45.83%)	25 (20.83%)
13	Average yield of above ten years old cashew nut tree	37 (30.83%)	53 (44.16%)	30 (25.00%)
14	Time of first split application of recommended fertilizer	45 (37.50%)	55 (45.83%)	20 (16.66%)
15	Covering materials of the tree trenches in summer to control evaporation	24 (20.00%)	75 (62.50%)	28 (23.33%)
16	Critical stages of irrigation	13 (10.83%)	74 (61.66%)	27 (22.50%)
17	Pest that causes dropping of fruits	32 (26.66%)	69 (57.50%)	19 (15.83%)

Table 1: Contd.,

18	Time of application of organic manures	29 (24.16%)	81 (67.50%)	10 (8.33%)
19	Height and time of training and pruning.	23 (19.16%)	67 (55.83%)	30 (25.00%)
20	Control of Leaf and Blossom Webber can be controlled by spraying spinosad	41 (34.16%)	69 (57.50%)	10 (8.33%)
21	Importance removal of root suckers in first year of cashew plantation	15 (12.50%)	78 (65.00%)	27 (22.50%)
22	Propagation of Stem and Root Borer	50 (41.66%)	55 (45.83%)	15 (12.50%)
23	Removal of flowers in the first two years of cashew plantation	25 (20.83%)	50 (41.66%)	45 (37.50%)
24	Control of Cashew Stem and Root Borer (CSRB) through Carbaryl solution over the bark of the trunk	20 (16.66%)	85 (70.83%)	15 (12.50%)
25	Fog is the causative factor for flower dropping	15 (12.50%)	65 (54.16%)	40 (33.33%)
26	Irrigation interval during fruit formation	21 (17.50%)	85 (70.83%)	14 (11.66%)
27	Time of flowering and fruit bearing of BPP-6 variety	27 (22.50%)	75 (62.50%)	18 (15.00%)
28	Requirement of TADI fencing on all sides up to 2-3 years of planting	20 (16.66%)	45 (37.50%)	55 (45.83%)
29	Preventing T-Mosquito Bug through removal of Neem trees.	25 (20.83%)	55 (45.83%)	40 (33.33%)
30	Appropriate time of application of second split dose of fertilizers	20 (16.66%)	57 (47.50%)	43 (35.83%)
31	Gummosis is the symptom of Stem and Root Borer	40 (33.33%)	65 (54.16%)	15 (12.50%)
32	Effect of Thrips damage.	41 (34.16%)	59 (49.16%)	20 (16.66%)
33	Effective time of control T-Mosquito Bug	32 (26.66%)	78 (65.00%)	10 (8.33%)
34	Identification symptoms of Stem Borer.	30 (25.00%)	70 (58.33%)	20 (16.66%)
35	Affected parts of T-Mosquito Bug	33 (27.50%)	67 (55.83%)	20 (16.66%)

From Table 1 results revealed the item wise knowledge of cashew growers over the selected production technology of cashew in majority of respondents percentages are: Control of Cashew Stem and Root Borer (CSRB) through Carbaryl solution over the bark of the trunk and Fog is the causative factor for flower dropping, Irrigation interval during fruit formation (70.83%), Importance removal of root suckers in first year of cashew plantation (65.00%) Time of application of organic manures (67.50%), Covering materials of the tree trenches in summer to control evaporation (62.50%), Effective time of control T-Mosquito Bug (65.00%), Identification symptoms of Stem Borer (58.33%), Affected parts of T-Mosquito Bug (55.83%).

Table 2: Overall Knowledge Level of Respondents on Selected Cashew Production Technology

S. No	Over-all Knowledge Level	Frequency	Percentage
1	Low (37-59)	23	19.18
2	Medium (60-82)	65	54.16
3	High (83-105)	32	26.66
	Total	120	100.00

From Table 2, it can be seen that majority of the respondents (54.16%) had medium level of knowledge regarding the cashew production technology, followed by 26.66 per cent of the respondents have high levels and 19.18 per cent of the respondents have low levels of knowledge regarding the cashew production technology. These findings were found similar to the findings in **Dinesh and Jeya (2021).**

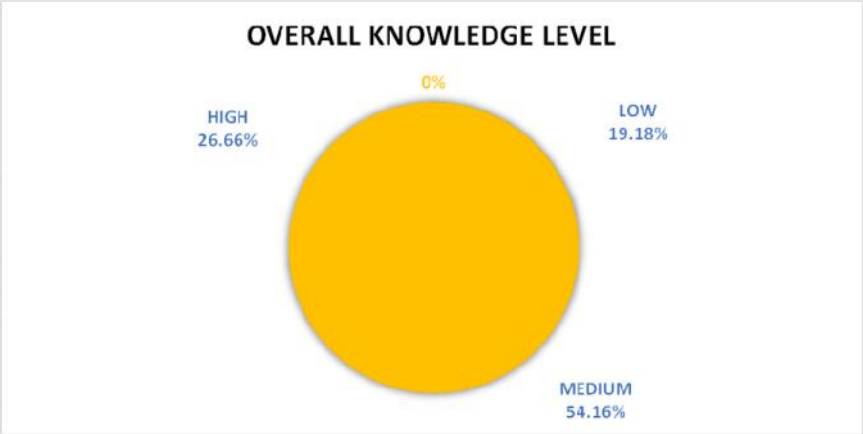

Figure 1: Overall Knowledge Level of Respondents on Selected Cashew Production Technology.

Table 3: Relationship Between the Knowledge Level and Socio-Economic Profile of the Cashew Growers on Selected Production Technology

S. No	Independent Variable	Co-efficient Correlation (r)
1	Age	0.9210**
2	Education	0.8407**
3	Farm holding	0.9793**
4	Farm experience	0.8701**
5	Family Size	0.0270 (N.S)
6	Annual income	0.8275**
7	Scientific orientation	0.8412**
8	Mass media exposure	0.9994**
9	Market orientation	0.8745**
10	Risk orientation	0.8701**
11	Extension contacts	0.9793**

* = Significant at 0.05 level of probability
** = Significant at 0.01 level of probability
N. S= non-Significant

The co-efficient of co-relation between the age (0.9210), education (0.8407), Farm holding (0.9793), Farm experience (0.8701), Annual income (0.8275), scientific orientation (0.8412) and mass media exposure (0.9994), Market orientation (0.8745), Risk orientation (0.8701), Extension contacts (0.9793) and the knowledge level as more than the table value "r" at 1 per cent level of significance. While the co-efficient of co-relation between Family size (0.0270) was more than the table value "r" at 1 per cent non- significant. It can be inferred that there is a positive and significant relationship between age, education, Farm holding, Farm experience, annual income, scientific orientation. Mass media exposure,

Market orientation, Risk orientation, extension contacts and knowledge level of the cashew growers on selected production technology. It can be inferred that there is a positive and non- significant relationship between Family size and knowledge level of the cashew growers on selected production technology.

Table 4: Extent of Adoption of Cashew Growers in Selected Cashew Production Technology

S. No	Particulars	Level of Adoption by Respondents					
		FA		PA		NA	
		F	%	F	%	F	%
A	**Planting**						
1	Growing of cashew in Light soil	46	38.34	74	61.66	-	-
2	Digging pits of 1m × 1m × 1m size.	38	31.66	67	55.83	15	12.50
3	Procuring the cashew grafts from the nurseries raised by Horticulture Department	17	14.16	32	26.66	71	59.16
4	Selection of BPP-8 or BPP-9 variety.	29	24.16	38	31.66	53	44.16
5	Selecting the grafts of more than 6 months age with 7-15 leaves.	37	30.83	66	55.00	17	14.16
6	Planting the cashew grafts in the months of June – July.	38	31.66	77	64.16	5	4.16
7	Maintaining sufficient distance between the soil and grafting joint.	30	25.00	80	66.66	10	8.33
8	Planting the grafts after removing the polyethylene bags.	98	81.66	22	18.34	-	-
9	Recommended spacing between cashew plants as 7m X 7m	30	25.00	80	66.66	10	8.33
10	Confining number of plants per acre as 80-90.	37	30.83	79	65.83	4	3.33
11	Removing root suckers in first year	22	18.33	81	67.50	17	14.16
B.	**Manures and fertilizers:**						
12	Application of Recommended dosage of manures in the pits at the time of planting (10kg FYM + 2 Kg Neem cake + 200g SSP)	23	19.16	61	50.83	36	30.00
13	Application of only organic manures in the first year of planting.	14	11.66	74	61.66	32	26.66
14	Application of fertilizers at the rate of 1100g Urea + 750g SSP + 225g MOP in two splits in the plantation of above five years old	39	32.50	72	60.00	10	8.33
15	Application of fertilizers in 15 cm deep furrows by Ring method	24	20.00	81	67.50	15	12.50
16	Application of fertilizers 1-1.5 meters away from the tree trunk.	34	28.34	86	71.66	-	-
C.	**Irrigation:**						
17	Giving irrigation immediately after planting	33	27.50	87	72.50	-	-
18	Irrigating each plant with 200 Litre of water at an interval of 15 days from January to March.	11	9.16	58	48.33	51	42.50
19	Giving irrigation at the time of critical stages of fruit formation and Nut development	-	-	47	39.16	73	60.83
D.	**Intercultivation:**						
20	Plough the tree trenches between rows to remove weeds.	17	14.16	37	30.83	66	55.00
21	Mulching with organic matter like dry leaves or straw at the tree base to control evaporation.	-		31	25.84	89	74.16
E.	**Training and Pruning:**						
22	Training of trees to ensure better canopy shape	20	16.66	35	29.16	65	54.16
23	Pruning the old aged plantations once in two years.	29	24.16	77	47.50	14	11.66
F.	**Plant protection**						
24	Spraying of Neem oil solution once in four months to prevent Cashew Stem and Root Borer	11	9.16	47	39.16	62	51.66
25	Inserting Aluminium Phosphide tablets at the rate of 1-2 per chiselled out hole in the trunk to control Stem and Root Borer.	18	15.00	44	36.66	58	48.33
G.	**Harvesting:**						
26	Harvesting of the fruits two months after flowering during March – May	27	22.50	79	65.83	14	11.66
27	Harvesting the mature nuts when grain colour turns Pinkish to Grey colour	41	34.16	79	65.83	-	-
28	Drying the nuts for 2 – 4 days in the Sun.	49	40.83	71	59.16	-	-
29	Storing the produce only after drying.	120	100	-	-	-	-

Table 5: Overall Adoption Level of Respondents on Selected Cashew Production Technology

S. No	Over-all Adoption Level	Frequency	Percentage
1	Low (31-49)	27	22.51
2	Medium (50-68)	61	50.83
3	High (69-87)	32	26.66
	Total	120	100.00

From Table 5 It can be understood that most of the respondents (50.83 %) had medium level of adoption, followed by 26.66 per cent of the respondents have high levels and 22.51 per cent of the respondents have low levels of adoption regarding the recommended practices in tomato cultivation. These findings were found similar to the findings in **Sajeev *et al.*, (2015).**

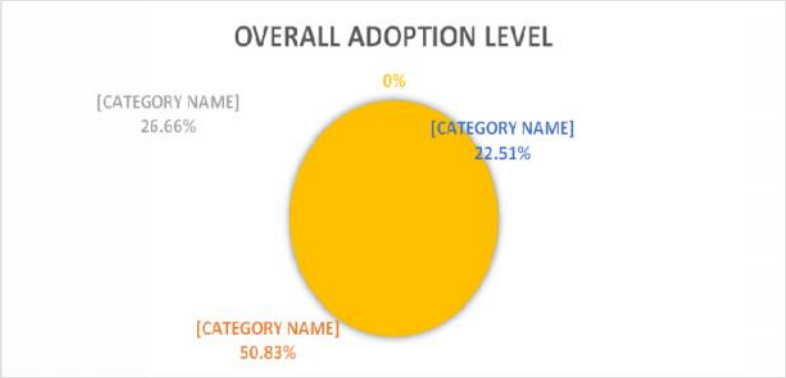

Figure 2: Overall Adoption Level of Respondents on Selected Cashew Production Technology.

Table 6: Relationship Between the Knowledge Level and Socio-Economic Profile of the Cashew Growers on Selected Production Technology

S. No	Independent Variable	Co-efficient Correlation (r)
1	Age	0.9347**
2	Education	0.8196**
3	Farm holding	0.5575**
4	Farm experience	0.8509**
5	Family Size	0.0951(N. S)
6	Annual income	0.8058**
7	Scientific orientation	0.9995**
8	Mass media exposure	0.9955**
9	Market orientation	0.8556**
10	Risk orientation	0.8509**
11	Extension contacts	0.9862**

* = Significant at 0.05 level of probability,
** = Significant at 0.01 level of probability
N. S= non-Significant

The co-efficient of co-relation between the age (0.9347), education (0.8196), Farm holding (0.5575), Farm experience (0.8509), Annual income (0.8058), scientific orientation (0.9995) and mass media exposure (0.9955), Market orientation (0.8556) Risk orientation (0.8509), Extension contacts (0.9862) and the knowledge level as more than the table value “r” at 1 per cent level of significance. While the co-efficient of co-relation between Family size (0.0951) was more than the table value “r” at 1 per cent level of non- significant. It can be inferred that there is a positive and significant relationship between the age, education, Farm holding, Farm experience, annual income, scientific orientation. Mass media exposure, Market orientation, Risk orientation, extension contacts and adoption level of the cashew growers on selected

production technology. It can be inferred that there is a positive and non- significant relationship between Family size and adoption level of the cashew growers on selected production technology. These findings were found similar to the findings in **Sajeev *et al.*, (2018).**

CONCLUSION

It is concluded that the socio-economic profile of the sample group were medium level. It was evident that the knowledge of cashew growers on production practices was medium level. It was also found that the adoption of cashew growers on production practices were medium level. There is no association between socio economic-economic characters and knowledge, adoption. Therefore, null hypothesis is rejected. The study declared that majority of the respondents expressed their problems such as lack of knowledge about recognized source of planting material , Lack of knowledge about recommended pesticides and their dosages, high cost of manures and fertilizers, lack of proper knowledge about market price etc., Hence, the government should be conducted extension services like agricultural training programmes, Krishi mela etc., for improved in order to build the capacity of cashew growers on cashew production. Due to these programmes the knowledge will be high as well as respondents in adoption be in majority level.

REFERENCES

1. ***Aski, S.G.and Hirevenkanagoudar, L.V (2010)*** *Extent of adoption of improved mango cultivation practices by the KVK trained farmers, Asian Sciences; 5(2):98-101.*
2. ***Balarubini, M., Selvin, R. and Janani, S. (2014)*** *Adoption Behaviour of Cashew Growers in Cuddalore District, Journal of Extension Education; 26(4), 5365-5368.*
3. ***Kumar, D., S. and Dr. Jeya, R. (2021)*** *A Study on Knowledge Level of Cashew Growers in Ariyalur District of Tamil Nadu, Turkish Online Journal of Qualitative Inquiry (TOJQI);12(9):7311 – 7318*
4. ***Nagaraj, Dhananjaya Swamy, P.S., Madhushree, A. and Vidyadhara, B. (2013)*** *A Study on Knowledge and Adoption of Farm Mechanization by Paddy Grower in Tungabhadra Project Area, Karnataka, International Journal of Agriculture and Food Science Technology;4(4):385-390*
5. ***Sajeev, M.V.and Saroj, P.L. (2018)*** *Socio-economic determinants and adoption of pest management practices in cashew farming: A study in Dakshina Kannada, Karnataka, Journal of Plantation Crops; 46(1): 66-73.*
6. ***Saritha, S. and Pushpa, J. (2012)*** *Extent of knowledge and adoption level of farmers about improved technologies on cashew-based dryland farming system, Agriculture Update;7(3.4):405-409*
7. ***Tagor, L., Dipika, D., Dr. Sandhya Choudhary, Dr. Swarnakar, V.K. (2017)*** *Study on Adoption Behaviour of Improved Onion Production Technology of Onion Growers in Alirajpur District in M.P., IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS);10(5): 62-65.*