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Knowledge level of farmers on cashew cultivation technologies

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Abstract

The study assessed the knowledge level of cashew growers regarding recommended cultivation practices in Dakshina Kannada and Chitradurga districts of Karnataka. Results revealed that nearly half of the respondents had a medium level of overall knowledge (42.22% and 40.00%, respectively), followed by a high level in 38.89% and 36.67%. In Dakshina Kannada, farmers showed high knowledge in general awareness (77.78%) and nutrient management (76.67%), while moderate knowledge was observed in land preparation (58.89%) and marketing (57.78%). Conversely, Chitradurga respondents exhibited comparatively lower knowledge, with medium levels dominating across most practices—general awareness (44.44%), nursery management (32.22%), and nutrient management (43.33%). Knowledge gaps were more evident in plant protection, where only 27.78% and 20.00% had high knowledge in Dakshina Kannada and Chitradurga, respectively. The findings indicate that while farmers possess reasonable awareness of basic agronomic practices, targeted extension efforts and training are essential to enhance knowledge on pest management and marketing aspects.

1. Introduction

The cashew (*Anacardium occidentale* L.), often referred to as 'wonder nut', is one of the most valuable processed nuts traded on the global commodity markets. Beginning largely as a neglected crop, it ends up as a favourite snack food all over the world. The average global productivity of cashew is about 500 kg/ha while in India it is about 772 kg/ ha (DCCD 2014). The crop involves wider social and economic significance in India as cashew plantation engages around 0.3 million people and cashew processing provides employment to another 0.3 million people (NABARD, 2007).

Presently, cashew has gained status of a commercial crop through technological advancements with respect to propagation, production, management and mechanized processing (Sajeev *et al*., 2014). This change was fuelled as a result of increasing demand for raw cashew nuts and enhanced interest for its commercialization (Venkattakumar, 2009). Cashew can grow in fairly poor soils with relatively little rainfall of 1000 mm/year with a clear dry season of two to four months. These attributes, plus the facts that little capital requirement for orchard establishment and low nut perishability minimises the coordination requirements for post-harvest activities, have given cashew the reputation of being a crop which can be taken up successfully in less fertile soils.

Objectives

Knowledge Level of Farmers on Cashew Cultivation Technologies

2. Methodology

The study was conducted in Dakshina Kannada (traditional area) and Chitradurga (Non-traditional area) districts of Karnataka. These districts were purposively selected because of traditional and non-traditional cashew growing areas. The climate and soil of these two districts are more suitable for this crop and the district have large area of waste lands.

Considering the maximum area and production under cashew as criteria three taluks from each district *viz*., Mangaluru, Puttur and Bantwal of Dakshina Kannada district, Chitradurga, Holalkere and Challakere of Chitradurga district were selected purposively for conducting the study. Dakshina Kannada has 33,111 ha area under cashew crop with 47,816 MT of cashew production,

while, Chitradurga has an area of 62.12 ha and production of 120.09 MT.

A total of 180 respondents from both traditional and non-traditional area were selected randomly. Thus, the sample size was 90 respondents each from Dakshina kannada and Chitradurga districts.

Knowledge refers to the information possessed by an individual. It also refers to those behaviours and test situations that emphasize the remembering of some phenomenon or material by an individual either by recognition or by the recall of ideas. The knowledge level in the present study has been operationalized as the extent to which an individual possesses understanding and comprehension of various cashew cultivation practices. Teacher made test as suggested by Anastasi (1961) was used and the knowledge test was constructed based on the package of practices and discussion with subject matter specialties, extension personnel of the university.

A list of 20 items was selected for the purpose and each was administered in a question form to the respondents to obtain the response with four options to each question, out of which 3 were wrong and only one was the correct response. The questions and answers about the knowledge test were carefully designed in consultation with members of the advisory committee.

	Variables	Measurement
A		**Dependent variables**
1	Knowledge	"Teacher made test" suggested by Anastasi (1961)

The answers to questions were quantified by giving one score to the correct answer and zero score to the incorrect one. As a result, the maximum score that one could get was 20 and the minimum was zero. The total knowledge score for each respondent was calculated by summing up the number of items correctly answered by an individual respondent. The knowledge level was quantified by using frequency and per cent. Based on the total score, the respondents were classified into three categories namely, low, medium, and high using mean (X) and half standard deviation (SD) as a measure of the check.

Category	Criteria	Score
Low	<(Mean - ½ SD)	< 14.77
Medium	(Mean ± ½ SD)	14.77 to 17.59
High	>(Mean + ½ SD)	>17.59

3. Results and Discussion
3.1 Overall knowledge level of the respondents about cashew nut cultivation practices
A cursory perusal of the data in Table 1 indicated the overall knowledge level of the respondents about recommended cultivation practices.

About nearly half of the respondents (42.22 and 40.00%) had medium level of knowledge about recommended cultivation practices of cashew followed by high (38.89 and 36.67%) and low (18.89 and 23.33%) level of knowledge in Dakshina Kannada and Chitradurga districts, respectively.

Table 1: Overall knowledge level of the respondents on cashew cultivation Practices (n=180)

Sl No.	Category	Dakshina Kannada n₁= 90		Chitradurga n₂= 90	
		Frequency	Percentage	Frequency	Percentage
Knowledge	Low	17	18.89	21	23.33
	Medium	38	42.22	36	40.00
	High	35	38.89	33	36.67
		Mean = 16.46, SD = 1.41		Mean = 15.89, SD = 1.64	

3.2 Knowledge level of the respondents about individual recommended cultivation practices
The results of the Table 2 depicted the knowledge level of respondents on cashew nut cultivation practices in Dakshina Kannada and Chitradurga.

In Dakshina Kannada Majority (77.78%) of the respondents had high knowledge regarding general awareness on cashew nut cultivation practices. Whereas, 18.89 per cent of respondents had medium knowledge and only 3.33 per cent of them had low knowledge in general awareness on cashew nut cultivation practices. While in Chitradurga majority (44.44%) of the respondents had medium level of knowledge regarding general awareness on cashew nut cultivation practices. Where, as 37.78 per cent of respondents had high knowledge and only 17.78% per cent of they had low level of knowledge in general awareness on cashew cultivation practices.

Regarding nursery management in Dakshina Kannada, significantly higher per cent of respondents (68.89%) had high level of knowledge whereas, 24.44 per cent and 6.67 per cent of respondents had medium and low level of knowledge on nursery management respectively, Where as in Chitradurga significantly higher per cent of respondents (44.44%) had high level of knowledge whereas 32.22 and

23.33 per cent of respondents had medium and low level of knowledge on nursery management, respectively.

In Dakshina kannada more than half of the respondents (58.89%) had medium level of knowledge with respect to land preparation and planting whereas, 25.56 per cent of respondents had high level of knowledge and very less per cent of respondents (15.56%) had low level of knowledge. As in case of Chitradurga (54.44%) had high level of knowledge with respect to land preparation and planting, whereas 30.00 per cent of respondents had medium level of knowledge and only few were found (15.56%) had low level of knowledge.

In case of nutrient management, in Dakshina Kannada considerably higher percentage of respondents (76.67%) had high level of knowledge, followed by medium (17.78%) and low (5.56%) level of knowledge. While in Chitradurga districts, significantly higher per cent of respondents (43.33%) had medium level of knowledge, followed by high (32.22%) and low (24.44%) level of knowledge respectively.

It was observed that 41.11 per cent of the respondents had low level of knowledge regarding specific plant protection measures, followed by medium (31.11%) and high (27.78%) knowledge. Where as in Chitradurga 47.78 per cent of the

respondents had medium level of knowledge regarding in plant protection measures, followed by low (32.22%) and high (20.00%) level of knowledge respectively.

Results of the Table 2 also revealed that 57.78 per cent of respondents had medium level of knowledge on marketing. Whereas, 30.00 per cent of them had high level of knowledge and only 12.22 per cent of respondents had low level of knowledge on marketing. Where as in Chitradurga districts revealed 37.78 per cent of respondents had low level of knowledge, followed by 34.44 per cent had medium and 27.78 per cent had high level of knowledge respectively.

Table 2: Knowledge level of respondents on Cashew nut cultivation practices (n=180)

Parameter	Category	Dakshina Kannada		Chitradurga	
		f	%	f	%
General awareness on cashew nut	Low	3	3.33	16	17.78
	Medium	17	18.89	40	44.44
	High	70	77.78	34	37.78
	Mean = 2.74, SD = 0.53			Mean = 2.20, SD = 0.72	
Nursery management	Low	6	6.67	21	23.33
	Medium	22	24.44	29	32.22
	High	62	68.89	40	44.44
	Mean = 2.63, SD = 0.63			Mean = 2.21, SD = 0.80	
Land preparation and planting	Low	14	15.56	14	15.56
	Medium	53	58.89	27	30.00
	High	23	25.56	49	54.44
	Mean = 3.17, SD = 0.64			Mean = 2.38, SD = 0.74	
Nutrient management	Low	5	5.56	22	24.44
	Medium	16	17.78	39	43.33
	High	69	76.67	29	32.22
	Mean = 2.75, SD = 0.52			Mean = 2.08, SD = 0.74	
Plant protection measures	Low	37	41.11	29	32.22
	Medium	28	31.11	43	47.78
	High	25	27.78	18	20.00
	Mean = 3.70, SD = 1.09			Mean = 1.88, SD = 0.71	
Marketing	Low	11	12.22	34	37.78
	Medium	52	57.78	31	34.44
	High	27	30.00	25	27.78
	Mean = 2.16, SD = 0.67			Mean = 1.90, SD = 0.80	

5. Conclusion
The study revealed that the overall knowledge level of respondents on recommended cashew cultivation practices was medium in both Dakshina Kannada and Chitradurga districts. Respondents from Dakshina Kannada exhibited comparatively higher knowledge across most practices than those from Chitradurga. High awareness was observed regarding general cultivation practices and nutrient management in Dakshina Kannada. Conversely, Chitradurga respondents showed better knowledge in land preparation and planting. Nursery management knowledge was satisfactory in both districts. However, knowledge on plant protection measures remained relatively low among respondents from both areas. Marketing aspects also showed only a moderate level of understanding. Overall, the findings suggest a need for targeted training and extension programmes to enhance knowledge, particularly in plant protection and marketing practices.

5. Future scope
Future studies can be extended to other major cashew-growing districts for wider applicability of findings. Action research and large-scale field demonstrations should be undertaken to enhance farmer awareness and technology adoption. Social aspects like gender participation and marketing behavior of growers need deeper exploration. Additionally, studies on value addition, processing, and cropping systems offer significant future research potential.

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