

A Study on Knowledge Level of Farmers About Recommended Cultivation Practices of Vanilla Crop

B.KRISHNAMURTHY, H.K. PANKAJA , SHILPASHREE, K. SHIVARAMU
AND B. NARAYANASWAMY

Directorate of Extension
University of Agricultural Sciences, Hebbal, Bangalore-560 024

(Received: May, 2005)

Abstract : The study was undertaken in Shimoga district of Karnataka with the objective of analyzing the knowledge level of vanilla growers and their socio-economic and psychological characteristics. The data was collected from 60 vanilla growers. Majority of vanilla growers had medium level knowledge about overall recommended vanilla cultivation practices. The study also revealed that cent percent of the vanilla growers had correct knowledge about suitable soil, suitable support tree, recommended irrigation method, artificial hand pollination and grading of beans large majority of them had the correct knowledge about spreading of organic manure, suitable months for planting, light pruning and time of pollination. The personal, social-economic and psychological characteristics like age, education, family dependency ratio, social participation, risk orientation, economic orientation, level of aspiration, innovation proneness and management orientation exhibited significant relationship with their knowledge level.

Introduction

Vanilla is an important commercial crop growing in India which is most expensive Spice crop after saffron. The name vanilla has been derived from two Spanish words "*vaina*" means pod and "*illa*" means small that is, a vine yielding small pods. Vanilla today (constitutes the world's most popular flavouring agent for numerous sweetened foods. "Vanilla sugar" is used in the manufacture of chocolates. "Vanilla flavouring" is used in country's commercial products and in liquor production. It is widely used as a flavouring agent for excellence in ice-cream, soft drinks, chocolate, confectionery, candy, tobacco, baked foods, puddings, cakes, cookies, liquors and as a fragrantly tenacious ingredient of perfumery and as a masking agent for pharmaceuticals. Therefore, the demand for a natural vanillais increasing world over day by day (George, 2000; Suryanarayana, 2004). Vanilla is cultivated in Chickmagalur, Shimoga, Mudigere, Hassan, Mysore and Kodagu districts in an area of 1,465 ha. The crop has significant impact on national economy and the income from this crop has been increased by 10 per cent every year (Krishnamurthy and Melanta , 2002). There is a

lot scope for increasing the area and productivity in view of high profitability and export demand. Therefore, it is pertinent and appropriate to know the knowledge gap of vanilla growers about the recommended cultivation practices. Since, there are no scientific enquiry into this aspect, the findings will be useful to extension personnel to concentrate and organize educational activities on the areas of knowledge gap in order to enhance adoption level there by contributing for attaining potential yield by vanilla growers (Elizabeth, 2002). This will also serve as information source to guide the prospective vanilla growers. Hence, the study was undertaken to understand the overall knowledge level of vanilla growers about the recommended cultivation practices and to study the relationship between personal, socio-economic and (psychological characteristics with knowledge level of vanilla growers.

Material and Methods

The study was conducted in Shimoga, Bhadravathi, Thirthahalli and Sagar taluks of Shimoga districts in Karnataka. The villages were selected based on the guidelines that these villages had higher number of progressive farmers

who are growing vanilla. From each taluk, 15 vanilla growers were selected based on their experience in vanilla cultivation i.e., four years and above. Thus, the total sample size for the study was 60. The data were collected from the respondents through personal interview technique and analysed by using frequency, percentages, mean, standard deviation and correlation.

Results and Discussion

The data presented in table 1 reveals that 42.00 per cent of the vanilla growers had medium overall knowledge level followed by lesser percentage under low (35) and high (23) groups. The gain in knowledge may be due to the fact that, vanilla being a commercial and highly remunerative plantation crop which involves investment, great risk and therefore, the growers who were intending to a take up this type of crop seek as much information as possible from all the available sources. Besides, these farmers are more resourceful and invariably own bore wells, open wells and some of them are using channel water for irrigation of the crop. They are contacting formal sources such as Horticultural Assistants, Assistant Horticultural Officer, Spice Board and UAS scientists to get the latest information. Therefore, it is quite natural to possess better knowledge. The findings of the study are in agreement with the findings of Vijaykumar (1997).

It was clear from the results presented in table 2 that, cent per of the vanilla growers had correct knowledge regarding specific practices such as suitable soil, suitable support tree, recommended irrigation method, artificial hand pollination and grading of beans. This might be due to the fact that these five practices are prerequisite for vanilla cultivation and therefore, they have acquired knowledge to the fullest extent of their satisfaction. A great majority of vanilla

growers had correct knowledge about the practices like spreading of organic manures (98.30%), suitable months for planting (96.70%), appearance of pale yellow colour at the distal ends of the beans was the right time for harvesting (96.70%), light pruning before the beans are harvested (95.00%), the time of pollination (95.00%) spacing followed in inter crop (90.00%) and in pure crop (88.30%), size of the pit for planting (86.00%), nipping off the tip of the veins (86.70%) and majority of the vanilla growers had correct knowledge about the practices like optimum dose of organic manure application. Duration between flowering and harvesting, recommended yield as an inter crop, Time of application of organic manure, ideal size of the cutting, 10-12 inflorescence maintenance per plant and 80.00 per cent of them had knowledge about filling materials utilization and harvesting of beans at proper time. The plausible reason may be that, these practices are easy and simple. In addition, vanilla is a major commercial and risky crop, farmers devoted enormous time to acquire the correct recommended practices through various sources of information. Since, the crop is grown from seven years, informal interaction with progressive farmers have contributed for higher knowledge and also because of their past experiences, they felt that the above mentioned practices are very important to take up vanilla cultivation and in the process they might have acquired better knowledge on these specific practices. Majority of them had correct knowledge about the practices like depth of planting, stopping of irrigation before flowering, recommended yield as a pure crop, age of the mother plant from which the cutting is selected, conditioning of beans, killing of beans, optimum dose of fertilizers application, recommended varieties, cutting treatment, sweating of beans, slow drying of

Table 1. Overall knowledge level of recommended cultivation practice of vanilla growers

Category	Vanilla growers	
	No.	Percentage
Low	21	35.0
Medium	25	41.7
High	14	23.3

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Table 2. Knowledge level of vanilla growers regarding specific recommended vanilla cultivation practices

Sl. No	Recommended Practices	Knowledge level of vanilla growers			
		Correct Knowledge		Incorrect Knowledge	
		No.	%	No.	%
1.	Suitable soil for vanilla cultivation	60	100	-	-
2.	Recommended varieties	36	60.0	24	40.0
3.	Suitable support tree	60	100	-	-
4.	Required size of the pit for planting	52	86.7	8	13.3
5.	Filling materials used	48	80.0	12	20.0
6.	Suitable months for planting	58	96.7	2	3.3
7.	Spacing				
	a) Vanilla as a pure crop	53	88.3	7	11.7
	b) Vanilla as an intercrop with arecanut Coconut	54	90.0	6	10.0
8.	Ideal size of the cutting	49	81.7	11	18.3
9.	Age of the mother plant from which the cutting is selected	37	61.7	23	38.3
10.	Cutting treatment	34	56.7	26	43.3
11.	Depth of planting	46	76.7	14	23.3
12.	Optimum dose of organic manure	51	85.0	9	15.0
13.	Time of application of organic manure	50	83.3	10	16.7
14.	Optimum dose of fertilizer application	36	60.0	24	40.0
15.	Recommended irrigation method	60	100	-	-
16.	Stopping of irrigation before flowering	40	66.7	20	33.3
17.	Insects and their control	26	43.3	34	56.7
18.	Diseases and their control	21	35.0	39	65.0
19.	Duration between flowering and harvesting	51	85.0	9	15.0
20.	Aftercare and Management practices				
	i. Spreading of organic manure	59	98.3	1	1.7
	ii. Nipping off the tip of veins	52	86.7	8	13.3
	iii. Light pruning before the beans are harvested	57	95.0	3	5.0
	iv. Artificial hand pollination	60	100	-	-
	v. Time of pollination is between 6am to 1 pm	57	95.0	3	5.0
	vi. 10-12 inflorescence are maintained per plant	49	81.7	11	18.3
	vii. Appearance of pale yellow colour at the distal ends of the beans was the right time for harvesting	58	96.7	2	3.3
21.	Harvesting of beans at proper time	48	80.0	12	20.0
22.	Yield				
	i. As a pure crop	38	63.3	22	36.7
	ii. As an intercrop	51	85.0	9	15.0
23.	Processing stage				
	i. Days required for processing	26	43.3	34	56.7
	ii. Methods for processing	32	53.3	28	46.7
	iii. Procedure followed in processing				
	a) Killing of beans	36	60.0	24	40.0
	b) Sweating	34	56.7	26	43.3
	c) Slow drying	33	55.0	27	45.0
	d) Conditioning	37	61.7	23	38.3
	iv. Recommended quantity of dried beans obtained after processing of 1 kg green beans	27	45.0	33	55.0
24.	Grading of beans	60	100	-	-

Table 3. Relationship between knowledge level of vanilla growers with their personal, socio-economic and psychological characteristics

Sl. No.	Characteristics	Correlation co-efficient
1	Age	0.2618*
2	Education	0.2664*
3	Land holding	-0.0843NS
4	Dependency ratio	0.3252**
5	Annual income	0.0032 NS
6	Social participation	0.2573*
7	Cosmopoliteness	-0.0979
8	Farming experience	0.0512NS
9	Risk orientation	0.2568*
10	Economic orientation	0.3517**
11	Deferred gratification	0.1320NS
12	Level of aspiration	-0.3100*
13	Achievement motivation	0.1342NS
14	Innovative proneness	0.2704*
15	Management orientation	0.2637*

* Significant at 5% level ** Significant at 1 % level NS - Nonsignificant

beans and methods used for processing. The reason for having correct knowledge about these practices might be due to the fact that even though the farmers were less exposed to information sources, but there was a considerable percentage of consultation with some of the sources viz., friends, relatives, neighbours, progressive farmers. In turn, these sources might have passed on the information to other growers. On the contrary, around forty per cent of vanilla growers had correct knowledge about recommended quantity of dried beans obtained after processing of 1 kg of green beans, days required for processing important insects, pests and diseases and their control. This might be due the fact that the information relating to processing and plant protection measures is a complex phenomenon and therefore, the farmers finds it difficult to comprehend and remember, besides the processing of inputs require high investment. The findings are in consistent with the findings of Balasubramani (1997) and Vasanth Kumar (2000). The results presented in table 3 reveals that age, education, dependency ratio, social participation, risk orientation, economic orientation, innovation

proneness, management orientation of vanilla growers had significant relationship with their knowledge level, whereas level of aspiration exhibited negatively significant relation with knowledge level. Other characteristics like land holding, annual income, cosmopoliteness, farming experience, deferred gratification and achievement motivation had nonsignificant relation with their knowledge level (Raghavendra,1997) .

The logistic regression is calculated to analyse the relationship between the independent variables and knowledge was carried out the results are presented in table 4. The table shows that, the two likelihood ratio (2 log hood) is significant, explains that the variables ought to be in the model were included. The goodness of fit is also significant showing that the model is collectively describing the outcome variable. The model correctly predicted 78.33 per cent of the cases, which means the independent variables explained the probability that vanilla growers had knowledge about recommended practices in 78.33 per cent of the cases. The chi-square is found to be significant at 5 per cent, which

Table 4. Logistic regression analysis of knowledge level with their personal, socio-economic and psychological characteristics of vanilla growers

Sl. No.	Variables	B	S.E.	Wald	Of	Sig.	R	Exp(B)
1	Age	0.0221	0.0301	0.5402	1	0.4623	0.0000	0.0224
2	Education	0.6595	0.4354	2.2946	1	0.1298	0.0597	0.9338
3	Land holding	0.0228	0.0473	0.2317	1	0.6303	0.0000	0.0231
4	Dependency ratio	-0.0098	0.0213	0.2112	1	0.6458	0.0000	0.9902
5	Annual income	1.9480	1.0880	3.1730	1	0.0749	0.1192	1.0000
6	Social participation	-0.1209	0.1624	0.5537	1	0.4568	0.0000	0.8861
7	Cosmopolitaness	-0.2935	0.2170	1.8293	1	0.1762	0.0000	0.7457
8	Farming experience	0.0445	0.0341	1.6987	1	0.1925	0.0000	1.0455
9	Risk orientation	-0.3456	0.1996	2.9637	1	0.0852	-0.1080	0.7092
10	Economic orientation	0.7992	0.4023	3.9453	1	0.0470	0.1535	2.2237
11	Deferred gratification	0.1769	0.0985	3.2259	1	0.0725	0.1218	1.1935
12	Level of aspiration	-0.0661	0.0830	0.6347	1	0.4256	0.0000	0.9360
13	Achievement motivation	0.1450	0.1052	1.8996	1	0.1681	0.0000	1.1560
14	Innovative proneness	-0.0477	0.2335	0.0416	1	0.8383	0.0000	0.9535
15	Management orientation	0.2255	0.1860	1.4694	1	0.2254	0.0000	1.2530
-2 log likelihood		52.989	Chi-square	df	significant			
Goodness of fit		52.749	29.678	15	0.0131			
Cases correctly predicted		78.33%	29.678	15	0.0131			

indicates that overall fit of the model. The estimated odd ratio represented by Exp (B) and which was obtained by e (2.178) raised to the value of regression co-efficient approximates how much more likely growers will have knowledge when the independent variable increased by one unit. It can be concluded from the study that, majority of vanilla growers belonged to medium level knowledge category. Thus, it is necessary to intensify extension programmes such as training demonstrations, field days and field visits to progressive farmers fields to increase their knowledge in respect of vanilla cultivation practices, which would help in increasing the yields of vanilla.

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