Journal of Scientific Research and Reports

Volume 30, Issue 7, Page 9-16, 2024; Article no.JSRR.117719
ISSN: 2320-0227

Entrepreneurial Behaviour of Fruit Growers of Karnataka

Anil Sidaray Chikkalaki [a++*], B. Krishnamurthy [b#] and Bharat Singh Ghanghas [a†]

[a] Department of Agricultural Extension Education, CCSHAU, Hisar, Haryana, India.
[b] Department of Agricultural Extension, UAS, Bangalore, Karnataka, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: https://doi.org/10.9734/jsrr/2024/v30i72118

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/117719

Original Research Article

Received: 02/04/2024
Accepted: 06/06/2024
Published: 08/06/2024

ABSTRACT

The study was conducted following ex-post facto research design during 2020 to analyse the entrepreneurial behaviour of fruit growers of Karnataka. Forty each grape, lime and pomegranate growers were selected from Vijayapura district by use of simple random sampling technique. Thus, making the sample size of 120. The findings revealed more than two fifth (42.50%) of grape growers, two fifth (40.00%) of lime growers and 37.50 per cent of pomegranate growers belonged to medium level of entrepreneurial behaviour. With respect to overall entrepreneurial behaviour, more than one third (37.50%) of the respondents had medium level of entrepreneurial behaviour followed by high (33.33%) and low (29.17%) levels. Considering the dimension wise entrepreneurial behaviour of fruit crop growers, significant percentage of them belonged to medium category of innovativeness (38.33%), decision making ability (41.67%), achievement motivation (38.33%),

---

[++] Ph.D. Scholar;
[#] Professor (Retired);
[†] Assistant Scientist;
**Corresponding author: E-mail: chikki025@gmail.com;*

Cite as: *Chikkalaki, Anil Sidaray, B. Krishnamurthy, and Bharat Singh Ghanghas. 2024. "Entrepreneurial Behaviour of Fruit Growers of Karnataka". Journal of Scientific Research and Reports 30 (7):9-16. https://doi.org/10.9734/jsrr/2024/v30i72118.*

knowledge on farming enterprise (41.67%), risk orientation (40.83%), information seeking behaviour (34.17%), ability to coordinate farm activities (44.17%), economic motivation (38.33%), leadership ability (38.33%), scientific orientation (36.67%) and management orientation (45.00%). The study also revealed that there was a significant difference in the mean entrepreneurial behaviour among grape, lime and pomegranate growers. Regression analysis was carried out to see the effect on independent variables on entrepreneurial behaviour.

Keywords: Entrepreneurial behaviour; fruits; grape; lime; pomegranate.

1. INTRODUCTION

Horticulture plays a vital role in our nation's economy. This sector has significantly bolstered farmers' financial stability by yielding higher returns from cultivation of perennial fruit crops, vegetables, flowers, and their year-round marketing of produce. Growing horticultural crops is acknowledged as an optimal means to enhance livelihood security, achieve food stability and supplement the income of farming communities through value addition. Fruit and vegetable crops, are notably resilient to weather fluctuations and are predominantly cultivated by small-scale farmers to increase their earnings. Additionally, this sector ensures people's access to a diverse and balanced diet, contributing to healthier living. Over recent years, horticulture has gained prominence, playing an increasingly substantial role in the overall output of agriculture and related sectors.

The status of horticulture crops in India has seen a remarkable upswing. The proportion of horticulture output in agriculture has surged to 33 per cent, marking a substantial increase. Notably, fruit and vegetable production in India has surpassed that of food grains. As of 2022-23, the estimated total horticulture production stands at an impressive 351.92 million tonnes [1]. Karnataka stands out prominently, securing the sixth position in India's fruit crop production, boasting a 7.4 per cent share. The total cultivated area for fruit crops in Karnataka spans 4.31 lakh hectares, yielding a production of 7.1 million tonnes. Vijayapura district holds a distinct position as one of Karnataka's leading fruit-producing regions. Despite contending with persistent challenges of water scarcity and arid land conditions year-round, farmers here have diversified by cultivating fruit crops like grape, lime, pomegranate, banana, mango, sapota and papaya. Fruit cultivation spans across 24.4 thousand hectares, yielding an impressive production of 4.43 lakh tonnes in Vijayapura district [2].

Entrepreneurship is an individual's ability to introduce fresh and innovative approaches within one's business or organization [3]. Entrepreneurship serves as a catalyst for multidimensional progress, encompassing risk-taking, resource mobilization, innovation in cultivation practices to enhance both quality and quantity while reducing costs, market expansion, and the effective supply chain management. The rapid agricultural advancement, poverty alleviation, and unemployment challenges has brought rural entrepreneurship to the forefront [4]. The future advancement of the agricultural community hinges significantly on the entrepreneurial actions of farmers. Fruit crops have emerged as a promising avenue for entrepreneurial pursuits among farmers, offering higher yields and returns per unit area, optimizing resource utilization on farms, and presenting diverse opportunities for post-harvest processing and value addition [5-7].

Therefore, a study on the entrepreneurial behaviour of fruit crop growers in Vijayapura district was needed to know the socio-economic profile of farmers, their standing in each dimension, constraint and suggestions to support the implementation of extension activities in the study area. The extension officials can use these variables to construct specific modules for the entrepreneurial improvement of the respondents. The study also attempts to delineate whether there is any difference between the entrepreneurial behaviour of grape, lime and pomegranate farmers as each crop faces different set of challenges to farmers.

2. METHODOLOGY

Vijayapura district of Karnataka state is well known for its fruit production. It is one of the leading producers of fruit crops such as grape, pomegranate and lime. Hence, Vijayapura district and these three crops were selected for the study purposively. Out of five taluks in the district, Vijayapura and Indi taluks were selected based on having maximum area, highest

production and productivity of fruit crops. Two villages namely Bijjaragi and Nagathan from Vijayapura district and Atharga and Tamba from Indi district were selected for study based on the same criteria. Then, from each village, 10 grape growers, 10 lime growers and 10 pomegranate growers were selected randomly. Thus, the total respondents constituted for the study were 120.

The scale developed by Shirur [8] with suitable modifications was used to study the dependent variable, entrepreneurial behaviour. It was operationally defined as a function of eleven dimensions i.e., innovativeness, decision making ability, achievement motivation, leadership ability, economic motivation, knowledge of farming enterprise, ability to co-ordinate farm activities, risk orientation, information seeking behaviour, scientific orientation and management orientation. The cumulative scores across all eleven dimensions determined the entrepreneurial behaviour score of the fruit crop growers. Subsequently, respondents were classified into three categories—low (<Mean - ½ SD), medium (between Mean ± ½ SD), and high (>Mean + ½ SD)—based on their mean, standard deviation, and overall score.

To assess potential differences in entrepreneurial behaviour among grape, lime, and pomegranate growers, an F-test within a one-way analysis of variance (ANOVA) was employed. Multiple regression analysis of independent variables with entrepreneurial behaviour of fruit crop growers was carried out to check the effect on independent variables on dependent variable. The data collection method involved personal interviews, and statistical tools such as mean, standard deviation, frequency, and percentage were utilized as appropriate. A systematic analysis of the data was conducted to derive valid conclusions.

3. RESULTS AND DISCUSSION

3.1 Overall Entrepreneurial Behaviour of Fruit Crop Growers

It is quite clear from Table 1 that, more than two fifth (42.50 %) of grape growers belonged to medium level of entrepreneurial behaviour, followed by high (30.00 %) and low (27.50 %) levels. Among the lime growers, two fifth (40.00 %) of them belonged to medium level of entrepreneurial behaviour, followed by low (32.50 %) and high (27.50 %) levels. In case of pomegranate growers, 37.50 per cent of them belonged to medium level of entrepreneurial behaviour, followed by high (32.50 %) and low (30.00 %) levels. In terms of the overall entrepreneurial behaviour of fruit crop growers, more than one third (37.50%) were in the medium category, followed by 33.33% at high and 29.17% at low levels of entrepreneurial behaviour.

The likely explanation for this pattern is that a considerable portion of respondents fell into the medium level concerning innovativeness, achievement motivation, risk orientation, economic motivation, and management orientation. Additional factors contributing to this trend encompass a lack of knowledge and implementation of enhanced practices, high input costs, absence of irrigation facilities, insufficient confidence, and the fear of potential failure in entrepreneurial endeavours. The results are in accordance with studies of Ekhande [9], Prashant et al., [10], Patil et al. [11] Shreekant and Jahagirdar [12], Uday Bhaskar et al. [13], Farooq et al. [14] and Sunidhi et al. [15] who also noticed that majority of the respondents had medium level of entrepreneurial behaviour followed by high and low levels, respectively.

3.2 Dimension Wise Entrepreneurial Behaviour of Fruit Crop Growers

It is evident from Table 2 that, more than one third (38.33%) of the respondents belonged to medium level of innovativeness. A large number of lime growers were found to have low innovativeness as they did not adopt the improved varieties, recommended dose of fertilizers and plant protection measures. With respect to grape and pomegranate growers, medium level of innovativeness was observed due to medium level of participation in extension activities and social organizations. The results are in accordance with the findings of Borate et al. [16], Shailesh Kumar et al. [17], Patil et al. [11] and Kolgane et al. [18].

More than two fifth (41.67%) of the respondents. belonged to medium level of decision-making ability. The observed trend could be attributed to the respondents' significant experience in cultivating their respective fruit crops, allowing them to independently make decisions regarding farming operations. Moreover, they were thoroughly prepared for the forthcoming season. Similar tendency has been reported by the studies of Ekhande (2016), Shreekant and Jahagirdar [12] and Uday Bhaskar et al. [13].

Table 1. Overall entrepreneurial behaviour of fruit crop growers

Sl. No.	Respondents	n	Category	f	%	$\bar{X}$	σ
1	Grape growers	40	Low	11	27.50	162.03	8.89
			Medium	17	42.50		
			High	12	30.00		
2	Lime growers	40	Low	13	32.50	154.38	9.11
			Medium	16	40.00		
			High	11	27.50		
3	Pomegranate growers	40	Low	12	30.00	158.25	8.48
			Medium	15	37.50		
			High	13	32.50		
4	Total	120	Low	35	29.17	158.22	8.72
			Medium	45	37.50		
			High	40	33.33		

n- Number of Respondents, f - Frequency, %- Per cent, $\bar{X}$- Mean, σ- Standard Deviation

Table 2. Dimension wise entrepreneurial behaviour of fruit crop growers

Sl. No.	Dimension	Category	n=120		$\bar{X}$	σ
			f	%		
1	Innovativeness	Low	36	30.00	24.53	4.92
		Medium	46	38.33		
		High	38	31.67		
2	Decision making ability	Low	28	23.33	13.79	1.95
		Medium	50	41.67		
		High	42	35.00		
3	Achievement motivation	Low	33	27.50	13.08	2.80
		Medium	46	38.33		
		High	41	34.17		
4	Knowledge about farming enterprise	Low	33	27.50	12.46	2.11
		Medium	50	41.67		
		High	37	30.83		
5	Risk orientation	Low	35	29.17	8.80	1.71
		Medium	49	40.83		
		High	36	30.00		
6	Information seeking behaviour	Low	40	33.33	24.04	2.53
		Medium	41	34.17		
		High	39	32.50		
7	Ability to coordinate farm activities	Low	30	25.00	7.06	1.75
		Medium	53	44.17		
		High	37	30.83		
8	Economic motivation	Low	31	25.83	24.82	4.15
		Medium	46	38.33		
		High	43	35.83		
9	Leadership ability	Low	39	32.50	10.53	2.07
		Medium	46	38.33		
		High	35	29.17		
10	Scientific orientation	Low	37	30.83	7.98	2.13
		Medium	44	36.67		
		High	39	32.50		
11	Management orientation	Low	32	26.67	11.03	2.56
		Medium	54	45.00		
		High	34	28.33		

f - Frequency, %- Per cent, $\bar{X}$- Mean, σ- Standard deviation

Nearly two fifth (38.33%) of the respondents belonged to medium level of achievement motivation. Extrinsic factors such as family needs, education of children, social status etc. were the key reasons. Every farmer assesses his standing in society in comparison to other farmers. This drives up their achievement motivation. The findings are in accordance with the studies of Kamaraddi [19], Patil et al. [11], Farooq et al. [14] and Sunidhi et al. (2023).

More than two fifth (41.67%) of the respondents belonged to medium level of knowledge about farming enterprise. Grape growers exhibited a superior understanding of farming practices compared to lime and pomegranate growers. This discrepancy might stem from differences in their educational backgrounds, exposure to mass media, engagement in social activities, participation in extension programs, and their eagerness to seek and implement enhanced techniques on their farms, aiming to augment their income. The findings are in accordance with the studies of Chaurasiya et al. [20], Jammer and Aski [21], Dodamani et al. [22] and Prashant and Bose [23].

Little more than two fifth (40.83 %) of the respondents belonged to medium level of risk orientation. Many respondents hesitated to embrace and invest in enhanced practices due to a fear of potential failure. Given that their livelihood depends solely on these practices, they could not afford setbacks. Consequently, they prefered to observe other farmers adopting the technology first before implementing it on their own farms. The results are in conformity with the findings of Naveen Kumar [24], Sumana [25], Farooq et al. [14] and Sunidhi et al. [15].

More than one third (34.17%) of the respondents belonged to medium level of information seeking behaviour. Fruit crops growers acquire information from different sources such as Raitha Samparka Kendras (RSKs), Karnataka State Department of Horticulture (KSDH), fertilizer and pesticide shops etc. This trend could potentially be attributed to the diverse range of exposure individuals have to various interpersonal connections and mass media channels, as well as their endeavours to access accurate information. The results are in conformity with the findings of Patil et al. [11] and Farooq et al. [14].

More than two fifth (44.17%) of the respondents belonged to medium level of ability to coordinate farm activities. The pattern may stem from respondents possessing considerable expertise in effectively running their farms, often with the assistance of family members. Many of these respondents organize credit and acquire farm inputs at reduced rates from cooperatives ahead of the season, enabling them to efficiently oversee their farms. The conclusions are in concurrence with the studies reported by Borate et al. [16], Kamaraddi [19] and Patil et al. [11].

More than one third (38.33 %) of the respondents belonged to medium level of economic motivation. One potential explanation could be that grape, lime, and pomegranate cultivation necessitate substantial investments to achieve increased yields and profits. As a result, farmers are incentivized to seek out enhanced technologies and improved marketing practices to maximize their profits. The findings are in accordance with the studies reported by Kamaraddi [19] and Kolgane et al. [18].

More than one third (38.33 %) of the respondents belonged to medium level of leadership ability. The majority of farmers perceive leadership more as a burden than an opportunity. Many respondents possess moderate leadership qualities since they are not actively engaged in cooperative activities, organizing training programs, or participating in exhibitions. Similar findings were reported by Chaurasiya et al. [20], Shreekant and Jahagirdar [12], and Uday Bhaskar et al. [13].

More than one third (36.67%) of the respondents belonged to medium level of scientific orientation. The results suggest that the majority of respondents tend to approach things from a scientific perspective, which is influenced by their educational background, risk tolerance, farming expertise, social involvement, engagement with mass media, and connections with extension systems. Specifically, in the case of lime growers, their limited exposure to mass media and lack of contact with extension services could account for their lower scientific orientation. Similar findings were reported by Sumana [25] and Uday Bhaskar et al. [13] and Farooq et al. [14].

More than two fifth (45.00%) of the respondents belonged to medium level of management orientation. One possible explanation could be that respondents possess substantial experience in independently managing their farms. They proactively prepare before the season by securing necessary inputs like planting materials, farmyard manure, fertilizers, and plant protection chemicals. Additionally, they consistently seek improved market opportunities to maximize their profits. The findings are in harmony with Kolgane

et al. [18], Uday Bhaskar et al. [13] and Sunidhi et al. [15].

3.3 One-Way Analysis of Variance to Test the Significant Difference between Entrepreneurial Behaviour of Fruit Crop Growers

Table 3 indicated a notable distinction in the mean score of entrepreneurial behaviour among grape, lime, and pomegranate growers at a significance level of one percent. Specifically, the data indicated that the mean score for grape growers (162.03) surpassed that of pomegranate growers (158.25) and lime growers (154.38).

The notable contrast in the entrepreneurial behaviour among grape, lime, and pomegranate growers may be attributed to distinct differences observed across various dimensions of entrepreneurial behaviour. Grape growers predominantly exhibited high levels of decision-making ability, achievement motivation, farming enterprise knowledge, information-seeking behaviour, economic motivation, and scientific orientation. Lime growers, on the other hand, had a majority of respondents categorized with low levels in innovativeness, risk orientation, information-seeking behaviour, leadership ability, and scientific orientation. Meanwhile, a substantial number of pomegranate growers were situated at a medium level across all dimensions. Consequently, the discernible differences in entrepreneurial behaviour among grape, lime, and pomegranate growers are evident due to these variations in specific dimensions.

3.4 Regression Analysis

Table 4 indicates the multiple regression analysis of independent variables with entrepreneurial behaviour of fruit crop growers. It can be seen that five variables namely, age, education, experience in fruit crop production, mass media exposure and cosmopoliteness were found to have significant on the entrepreneurial behaviour of fruit crop growers at five per cent level of significance. Two variables, annual income and extension contact impacted the dependent variable at one per cent level of significance. These seven variables could be termed as good predictors of the dependent variable. The R square of 0.612 indicates that all the fourteen independent variables contributed to 61 per cent variance in entrepreneurial behaviour of fruit crop growers [26].

Table 3. One-way analysis of variance to test the significant difference between mean entrepreneurial behaviour of fruit crop growers

Sl. No.	Respondents	n	Mean Score	F Value	F Critical Value
1	Grape growers	40	162.03		
2	Lime growers	40	154.38	6.69**	3.07
3	Pomegranate growers	40	158.25		

*n- Number of respondents, **- Significant at one per cent level*

Table 4. Multiple regression analysis of independent variables with entrepreneurial behaviour of fruit crop growers

Sl. No.	Independent Variable	b- Value	p-Value
1	Age	-0.517	0.019*
2	Education	0.277	0.023*
3	Occupation	0.081	0.773
4	Family size	0.225	0.380
5	Experience in fruit crop cultivation	0.256	0.025*
6	Land holding	0.238	0.085
7	Annual income	0.481	0.009**
8	Social participation	0.085	0.579
9	Mass media exposure	0.152	0.038*
10	Extension participation	0.197	0.007**
11	Value orientation	0.508	0.119
12	Self-reliance	0.172	0.562
13	Cosmopoliteness	0.271	0.041*
14	Deferred gratification	0.377	0.063
R^2 value		0.612	

**: Significant at 5%, **: Significant at 1%*

4. CONCLUSION

While the fruit crops are extensively grown in the district, it was observed that a smaller number of fruit growers belong to the high category of entrepreneurial behaviour. This calls for improvement of entrepreneurial behaviour of respondents by organizing effective entrepreneurship development programmes by the department of horticulture in collaboration with the entrepreneurship development organizations active in the district such as Centre for Entrepreneurship Development of Karnataka (CEDOK), Rural Development and Self Employment Training Institute (RUDSETI) and Association of Women Entrepreneurs of Karnataka (AWAKE). More focus should be given to pomegranate and lime growers towards their upliftment into higher level of entrepreneurship. Thus, periodic and intensive training programmes need to be organized for creating awareness, followed by vigorous follow-up, guidance and counselling for sustainability of the entrepreneurial activity. Micro enterprises like juice making, pickle making can be promoted through SHG (Self Help Group) approach especially in rural areas for women to supplement the family income. The variables whose effect on dependent variable was could be used by the concerned authorities for overall improvement in entrepreneurial behaviour of fruit crop growers.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. PIB. Second Advance Estimate for the Year; 2022-23. 2023.
2. Anonymous. Vijayapura district at a glance 2017-18, Office of the District Statistical officer, Vijayapura; 2018.
3. Prince S, Chapman S, Cassey P. The definition of entrepreneurship: Is it less complex than we think?. International Journal of Entrepreneurial Behavior & Research. 2021;27(9):26-47.
4. Pathak OM. Rural development through agri-preneurship: Entrepreneurs experience in agriculture. International Journal of Marketing, Financial Services and Management Research. 2015;1(6): 143-9.
5. Mahawar MK, Bibwe B, Girjal S, Jalgaonkar K, Meena VS, Bhushan B. Entrepreneurship development through fruit and vegetable processing. Today and Tomorrow's Printers and Publishers, New Delhi. 2019;113-132.
6. Murugan, P. P, Sree Madhumitha, G, Denadyalan, S, Janaki Rani, A. Marketing Behaviour of Young Chrysanthemum growers in Salem District of Tamil Nadu, India. J. Exp. Agric. Int. 2024;46(3):1-8. Available:https://journaljeai.com/index.php/JEAI/article/view/2319 [Accessed on 2024 May 16].
7. Kulkarni NP, Jahagirdar KA. Entrepreneurial behavior and constraints faced by the rose growers. Ajaees. 2019; 32(4):1-8. Available:https://journalajaees.com/index.php/AJAEES/article/view/724 [Accessed on 2024 May 16].
8. Shirur M, Shivalingegowda NS, Chandregowda MJ, Rajkumar BJ. Mushroom entrepreneurial behaviour: Dimensions and measurement. International Journal of Agricultural and Statistical Sciences. 2015; 11(1):61-68.
9. Ekhande YS. Entrepreneurial behaviour of sweet orange growers in Marathwada region. M.Sc. (Agri.) Thesis, VNMKV, Parbhani; 2016.
10. Prashant M. Badodiya SK, Chaurasiya KK. Entrepreneurial behaviour among guava growers of Sawaimadhopur district in Rajasthan. Journal of Community Mobilization and Sustainable Development. 2016;11(2):236-241.
11. Patil YR, Wankhade PP, Kale NM, Kavthekar AS. Entrepreneurial behaviour of dairy farmers. Indian Journal of Extension Education. 2017;53(4):107-110.
12. Shreekant and Jahagirdar KA. An analysis of entrepreneurial behavior of dry grape (raisin) producers of Vijayapura district. Journal of Farm Sciences. 2017;30(4): 491-495.
13. Uday Bhaskar M, Srinivasa MR, Sathya Gopal PV. Entrepreneurial behaviour of

commercial floriculture nursery ownersin kadiyam of Andhra Pradesh. Indian Journal of Extension Education. 2019;55(4):1-6.
14. Farooq F, Peer QJQ, Shah AH, Tabina. Regression analysis of independent variables on entrepreneurial behaviour of grape growers in district Ganderbal. Journal of Community Mobilization and Sustainable Development. 2022;1(26-28): 137-140.
15. Sunidhi, Singh D, Kaur M, Kaur L. Entrepreneurial behaviour of chilli growers in Punjab state. Journal of Community Mobilization and Sustainable Development. 2023;18(1):71-78.
16. Borate HV, Mahadik RP, Kokate KD. Entrepreneurial behaviour of mango growers. Journal of Community Mobilization and Sustainable Development. 2010;5(2):69-73.
17. Shailesh Kumar, Sharma G, Srinivas K , Yadav VK. Determinants of entrepreneurial behaviour of vegetable growers. Indian Journal of Extension Education. 2013;49 (3&4):1-4.
18. Kolgane BT, Suramwad SR, Dound RV. Study the entrepreneurial behaviour of pomegranate growing farmers in Solapur district of Maharashtra state. Journal of Pharmacognosy and Phytochemistry. 2018;7(1): 2956-2958.
19. Kamaraddi P. Entrepreneurial behaviour of pomegranate growers in Koppal district of Karnataka. M.Sc. Thesis, ANGRAU, Hyderabad; 2011.
20. Chaurasiya KK, Badodiya SK, Gaur CL. Entrepreneurial behavior of dairy farmers about dairy management practices. Journal of Community Mobilization and Sustainable Development. 2015;10(2): 190-194.
21. Jammer RA, Aski SG. Knowledge of recommended lime cultivation practices. Agriculture Update. 2017;12(4): 619-622.
22. Dodamani D, Pennobaliswamy GR, Mahantesh S, Gajanand P. Knowledge and Adoption Level of Thompson Seedless Grape Growers of Bijapur District of Karnataka, India. International Journal of Current Microbiology Applied Sciences. 2018;7(1):2202-2209.
23. Prashanth R, Bose DK. Knowledge level of farmers regarding improved cultivation practices of pomegranate crop in Chitradurga district of Karnataka. Journal of Pharmacognosy and Phytochemistry. 2018;7(3):1766-1778.
24. Naveen Kumar P. Entrepreneurial behaviour of pomegranate farmers in Chitradurga district of Karnataka. M.Sc. (Agri.) Thesis, UAS, Bangalore; 2012.
25. Sumana NA. Entrepreneurial behaviour and marketing practices of grape growers in Chikkaballapura district. M.Sc. (Agri.) Thesis, UAS, Bangalore; 2017.
26. Wanole SN. Entrepreneurial behaviour of banana growers. M.Sc. Thesis, VNMKV, Parbhani; 2016.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/117719