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Knowledge level of recommended cultivation practices of apple growers in district Pulwama of J&K

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Abstract

Apple is considered as one of the most important and widely grown fruit in temperate zones of the world. The state of Jammu and Kashmir comprising of temperate, cold arid and hilly areas is capable of producing best quality of apple than rest of the states of the country. Knowledge is the body of understood information possessed by an individual. It is the understanding and comprehension possessed by apple growers on various dimensions of apple cultivation. The study was conducted in three (3) randomly selected villages of tehsil Tral of district Pulwama. A multistage sampling procedure was adopted for the selection of sample respondents in order to study the knowledge level of farmers regarding recommended apple cultivation practices. The study reveals that most of the apple growers have medium level of knowledge (46.36%) and only (23.64%) of apple growers possess high level of knowledge regarding apple cultivation. It is also evident that apple growers are lacking knowledge about important aspects such as plant protection measures (56.36%), marketing (66%) among others.

Keywords: Apple growers, Cultivation practices, Kashmir, Knowledge level, Pulwama

Introduction

Apple is one of the most widely cultivated tree fruits. India is ranked as the (6th) sixth largest world's apple producing country and second largest country in area (Deodhar *et al*, 2006) [3]. Apple is considered as one of the most important and widely grown fruit in temperate zones of the world with regard to its acreage, production, economic returns, high nutritive value and popularity. Apple tree is small and deciduous reaching 3 to 12 meter (9.0 to 39 feet) tall with broad often densely twiggy crown blossoms are produced in spring, simultaneously with budding of leaves. The fruit matures in autumn and is typically 5 to 9 Cms (2 to 3.5 inches) in diameter enriched with nutrients. The state of Jammu and Kashmir comprising of temperate, cold arid and hilly areas are located in the North-Western region of the country and is capable of producing best quality of apple than rest of the states of the country. Nearly all of the Indian Apples are grown in three mountainous states of North India, Himachal Pradesh, Jammu and Kashmir and Uttaranchal where they are typically grown at an altitude of 4000 to 11000 feet. Jammu and Kashmir and Himachal Pradesh have roughly equal area planted to apple, but J&K has the highest average field and accounts 67% of total apple production and 50% of its export in the country hence a substantial foreign exchange earner and important for economic growth of the state as well as of the country (Malik, 2013) [6].

Apple is undoubtedly the most important temperate fruits of Kashmir with an excellent keeping quality and wide variety of tastes and flavours. It is through the efforts of consciousness of beauty, taste and flavour and agro-climatic conditions of valley which has made it ideally suited state for production of apples. Apple industry is a major sector of the economy of Kashmir valley and the fruit industry in the state has indeed become the bull work of rural economy. The area under apple fruit has increased but the productivity has not improved to a satisfactory level. Even productivity of 10-12 metric tonnes per hectare has shown decline in last few years. The decline was experienced even in primary apple growing areas of the valley like Baramulla district. (Bhat *et al*, 2009) [2]. However, from last few years the production and productivity of apple is markedly decreasing despite having congenial and suitable climate for apple cultivation. The possible reason in the decline of apple production and productivity in the state is due to variability in the use of agricultural technologies, lack of capitalization, in-efficient and out-dated techniques and poor marketing that contribute to the lack of commercial success in agricultural produce. It is also evident that though the large diversity in agro climatic conditions of the state is conducive for propagation of diversified farming system, the terrain at the same time is tough and accessibility to a greater part of the

region is poor. This causes the lot of hurdles to the inhabitants regarding the knowledge and awareness about the use of inputs, products and other farming practices. However if the farmers adopt recommended cultivation practices and have appropriate knowledge about cultivation practices, there will be increase in production as well as productivity of apple in the state. Looking to above facts, present study is undertaken to study the knowledge level of apple growers of the recommended package of practices for apple cultivation. The mean and standard deviation of all the respondents' knowledge scores were computed for classifying the knowledge in different categories. Based on the mean knowledge score and standard deviation, the farmers were categorized under three knowledge level categories, namely low, medium and high.

Selection of the respondents

Three villages in the tehsil have been selected purposively based on the highest area under apple cultivation. Taking into consideration the highest area of apple as the criteria in the three respective villages, a comprehensive list of the farmers from each village were prepared in consultation with village sarpanches/revenue authorities and out of total orchardists only 110 apple growers or respondents were purposively selected for the study, based on the total number of respondents present in the study area. The sampling plan was random and purposive.

Results and Discussion

Overall knowledge level of cultivation practices

Table 1 and Fig. 1 indicates that the considerable percentage of the respondents (46.36%) had medium level of knowledge about recommended apple cultivation practices. Whereas 30 and 23.64 percent of the respondents had low and high level of knowledge.

Table 1: Overall knowledge level of farmers about recommended apple cultivation practices, N=110

S. No	Category	Respondents	
		Frequency	Percentage
	Low	33	30
	Medium	51	46.36
	High	26	23.64
	Total	110	100.00

Mean: 67.81, SD: 2.89

It is evident that majority of the apple growers were having medium level of knowledge regarding fruit cultivation, the possible reason for the medium level of knowledge of fruit growers is that the practices which are complex and difficult to remember are moderately known to farmers. On the other hand, the practices which are simple and are traditionally practiced are known to majority of the farmers. These findings are in agreement with the findings of Sunderraj (1978), Kantaraj (1980) [4], Kantharaju (1989) [5] and Balasubramani (1997) [1] which indicated that more number of farmers belonged to medium knowledge category.

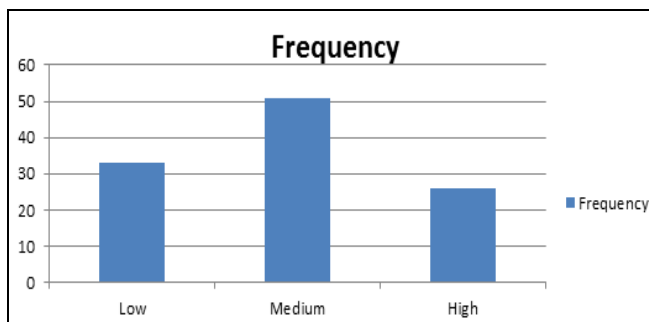


Fig 1: Knowledge Categories

Individual knowledge level of cultivation practices of apple

Table 2 gave further insight in to the details of different levels

of knowledge, such as, knowledge level of yes and no by the fruit growers. The results are presented practice wise in the following paragraphs.

Table 2: Knowledge level on individual cultivation practices by the fruit growers. n=110

S. No	Cultivation Practices	Knowledge level			
		Yes		No	
		Frequency	Percentage	Frequency	Percentage
	Recommended variety	53	48.18	57	51.81
	Seed rate	45	40.90	65	59.09
	Seed treatment	43	39.09	67	60.90
	Time of sowing	52	47.27	58	52.72
	Transplanting	65	59.09	45	40.90
	Spacing	51	46.36	59	53.63
	Irrigation	71	64.54	39	35.45
	Recommended quantity of FYM	67	60.90	43	39.09
	Fertilizer	52	47.27	58	52.72
	Weeding	88	80	22	20
	Plant protection	48	43.63	62	56.36
	Harvesting	57	51.81	53	48.18
	Marketing	44	40	66	60

Abbreviations

FYM: Farm Yard Manure.

Recommended variety, seed rate and seed treatment

From the Table 2, it is clear that 48.18 percent of the fruit growers were having knowledge about recommended variety. In case of seed rate 40.90 percent of the respondents were having knowledge about seed rate as per the recommendation. While in case of seed treatment 39.09 percent of the respondents were having knowledge about the seed treatment as per the recommendation. It is evident from the data that majority of the farmers were not having knowledge about the practices.

Sowing, transplanting, spacing and irrigation

From the Table 2, in case of sowing they have 47.27 percent knowledge about time of sowing. In case of transplanting 59.09 percent of the respondents were having knowledge about transplanting and 46.36 per cent of the fruit growers were having knowledge about spacing. While in case of irrigation 64.54 percent of the respondents having knowledge about irrigation.

Recommended quantity of FYM, Fertilizer

From the Table 2, it can be concluded that 60.90 percent of the respondents were having knowledge about recommended quantity of FYM; where as in case of fertilizer 47.27 percent of the respondents were having the knowledge of recommended fertilizer.

Weeding and plant protection

It is evidenced from the Table 2 that 80 percent of the respondents were having knowledge about weeding. In case of plant protection only 43.63 percent of the respondents were having knowledge about plant protection. It is evident as the plant protection measures are important factor for producing quality fruit, still less percentage of about 43.63 percent of farmers have appropriate knowledge regarding plant protection measures.

Harvesting and Marketing

In case of harvesting 51.81 percent of the respondents were having knowledge about harvesting of fruits and minimum of 40 percent of the respondents were having knowledge about marketing. As marketing aspect is considered as important factor in the procurement of apple produce, thereby good returns. It is evident from the data that small percentage (40%) of farmers were having knowledge about marketing aspect.

Conclusion and Recommendations

As majority of the apple growers were having medium level of knowledge regarding different components of the apple cultivation (recommended varieties, time of sowing, spacing and fertilizer application) so it is explicit that apple growers were not cultivating apple in accordance with the recommended practices. So it is the need of the hour that the resources should be fully exploited by encouraging farmers by providing them with the necessary support services, necessary arrangement of credit and subsidies as and when required. It is also evident that the apple growers usually spray the pesticides and insecticides on the authority of local sellers, they seldom follow the spray schedule of State agricultural university or department of horticulture, which hampers their production and therefore emphasis should be laid on, by giving training to the apple growers on recommended spray schedule. Keeping in view the time and gap between different sprays.

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