

## KNOWLEDGE AND ADOPTION OF PAPAYA GROWERS ABOUT RECOMMENDED PAPAYA CULTIVATION TECHNOLOGY

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### ABSTRACT

*Horticultural crops are playing major role in utilization of waste land and have potential to boost the production of fruit crops including papaya, which can be grown in dry belt with poor irrigation facilities. The present study was conducted through multistage random sampling technique and 120 papaya growers were selected from twelve villages belongs to Palanpur and Vadgam taluka of Banaskantha district, Gujarat state. The present study was conducted through the personal interviews and data collected were analysed by using the suitable statistical method. The results of the study found that more than two-thirds of the papaya growers had medium level of knowledge and possessed higher knowledge of papaya cultivation practices viz; transplanting, fertilizer, irrigation and harvesting. It can be inferred that majority of the papaya growers had medium extent of adoption. This finding indicates that majority farmers adopted such practices viz., transplanting, and harvesting more that did not involve any dependency in adoption, it means farmer himself took decision to adopt it. On the other hand farmers had not adopted such practices viz; nursery management because less knowledge about nursery management and this is complex practice.*

**Keywords:** papaya growers, nutritional security, processing, fruit crops

### INTRODUCTION

Horticulture is a specialized branch of agriculture and constitutes a significant component of the total agricultural produce in India. Horticultural crops particularly fruits, have great export potential and can earn foreign exchange in the sizeable quantum, if the existing resources are tapped to the full extent. Fruit production plays an important role in generating employment, income and meeting household's nutritional security. The commercial value of fruits and vegetables in terms of direct consumption, processing as well as trade has risen substantially in recent year. Fruits and vegetable crops play important role in economic growth particularly hilly area of the country. Their economic importance has also increased and high labour intensity in the production of most fruits and vegetables production also makes them important from the employment angle as well. To bring more area under horticultural crops has often been suggested for agricultural diversification, increased employment and income. The fruits and vegetable industry shall be expanded that producers must be assured of better marketing facilities and reasonable price for their produce.

Papaya is rich source of vitamin A and C. It has a high nutritive value. The ripe fruits are usually eaten raw, without the skin or seeds. The unripe green fruit of papaya can be eaten after cooking or in curries / salads and stews. It contains relatively high amount of pectin, which can be used to make jellies. Green papaya fruit and the tree's latex are both rich in an enzyme called papain, a protease which is useful in tenderizing meat and other proteins. Papain prepared from the dried latex of its immature fruits is used in meat tenderizing, manufacturing of chewing gum, cosmetic, for degumming natural silk and to give shrink resistance to wool. Besides this, it is also used in pharmaceutical industries, textile and garment cleaning paper and adhesive manufacture, sewage disposal etc.

### OBJECTIVES

- (a) To measure knowledge level of the papaya growers about recommended practices for papaya
- (b) To ascertain extent of adoption of recommended technology of papaya by the papaya growers

## METHODOLOGY

The study was confined to *ex-post facto* research design as the independent variables already operated in the study area. The present study was carried out in Banaskantha district of Gujarat state. The Banaskantha district comprises of 14 taluka of which two talukas *viz.*, Palanpur and Vadgam having more area and production of papaya compared to other talukas of the district were purposively selected for the study. Six villages from each selected taluka were randomly selected for the study. Using random sampling technique, equal number of respondents *i.e.*, ten from each village were selected. Thus, total 120 respondents were selected.

For measuring knowledge about recommended cultivation technology of papaya growers, a teacher made knowledge test was constructed. The test was administrated to the respondents for obtaining their responses. Each correct answer was given one score and zero for incorrect answer. The scale consisted total 72 items. Thus, one respondent can obtain maximum 72 score and minimum 0 score. The score on each item was then added to arrive at total knowledge score of a respondent. The knowledge index was calculated and on the basis of knowledge index the respondents were classified into three categories on the basis of mean and standard deviation. The practice wise knowledge score was calculated for each papaya cultivation practice and the mean score knowledge index was calculated. Practice wise mean score index of knowledge thus obtained and ranked on the basis of higher mean score in descending order.

For the purpose of measurement of extent of adoption of various recommended practices of the papaya crop, a list of recommended papaya cultivation technology was prepared in consultation with extension personnel, Horticulture experts and available literature. The papaya growers were asked to indicate the practices which they adopted in their field. Adoption of recommended practice was assigned the score as suggested by the experts. The possible total score respondent could obtain ranged from 0 to 72. The final score of the respondent was then calculated by simple addition of the score of all the practices. The adoption quotient (Sengupta, 1969) for each respondent was calculated

to measure his adoption of recommended cultivation technology of papaya. Based on the adoption quotient, the papaya growers were classified into three categories *viz.*, low, medium and high extent of adoption of papaya production technology on the basis of mean and standard deviation. The practice-wise adoption score was calculated for each package of practice and the mean score adoption index was computed. Practice-wise mean scores index of adoption thus obtained was ranked on the basis of higher mean score in descending order.

## RESULTS AND DISCUSSION

### Knowledge level of the papaya growers about recommended practices in papaya

An attempt has been made to assess the knowledge level of papaya growers about the recommended papaya cultivation technology. On the basis of knowledge score obtained by the respondents, they were categorised into three groups with the help of mean and standard deviation. The data in this regards are presented in Table 1.

**Table 1: Distribution of the papaya growers according to level of knowledge n=120**

Sr. No.	Level of knowledge	Frequency	Per cent
1	Low level of knowledge (up to 32.67 Score)	19	15.83
2	Medium level of knowledge (32.68 Score to 38.85 Score)	81	67.50
3	High level of knowledge (Above 38.85 Score)	20	16.67

Mean = 35.76

S.D. = 3.09

The results in Table 1 postulated that majority of the papaya growers (67.50 per cent) were having medium level of knowledge followed by 16.67 and 15.83 per cent of papaya growers who had high and low level of knowledge about recommended papaya cultivation technology, respectively.

This finding is supported by the findings of Mate (2005) and Rathod (2009).

**Table 2 : Practice wise per cent obtained score of knowledge of recommended papaya cultivation technology**

n=120

Sr. No.	Recommended practices	Maximum score	Obtained score	Per cent obtained Score	Rank
1	Transplanting	840	677	80.59	I
2	Fertilizer and irrigation	1080	785	72.62	II
3	Harvesting	1080	731	67.68	III
4	Weed management and plant protection	3960	2583	65.22	IV
5	Mulching and intercropping	840	545	64.88	V
6	Nursery management	840	438	52.14	VI

Table 2 reveals that transplanting of papaya seedling was the most important practices of papaya cultivation which attained maximum mean score index (80.59 per cent) and ranked first. The other important practices with higher mean score index were: fertilizer and irrigation (72.62 per cent), harvesting (67.68 per cent), weed management/plant protection (65.22 per cent), mulching/intercropping (64.88 per cent) and nursery management (52.14 per cent).

**Extent of adoption of recommended technology of papaya by the papaya growers**

**Table 3: Distribution of the papaya growers according to extent of adoption**

n=120

Sr. No.	Extent of adoption	Frequency	Per cent
1	Low adoption (Up to 30.44 Score)	25	20.84
2	Medium adoption (30.45 Score to 36.92 Score)	78	65.00
3	High adoption (Above 36.92 Score)	17	14.16
Mean = 33.68		S.D. = 3.24	

To know the level of adoption of recommended papaya cultivation technology, the papaya growers were asked to give the information about the package of practices adopted by them. The papaya growers were classified into three categories by considering their obtained score on the basis of mean and standard deviation. The data in respect are presented in Table 3

The results in Table 3 indicated that majority (65.00 per cent) of the papaya growers were having medium extent of adoption of recommended technology followed by 20.84 per cent and 14.16 per cent of papaya growers who had in low and high extent of adoption, respectively.

This finding is supported by the findings of Kumar (2012), Patel (2012), Patel (2007), Singh *et. al* (2010) and Varma *et. al* (2011).

Assessment of practice wise knowledge was also done. To assess the practice wise adoption mean score index was calculated for each practice and the data regarding practice wise adoption of the papaya growers are presented in Table 4

**Table 4 : Practice wise per cent obtained score of adoption of recommended papaya cultivation technology**

n=120

Sr. No.	Recommended practices	Maximum score	Obtained score	Per cent obtained Score	Rank
1	Transplanting	720	550	76.38	I
2	Harvesting	1080	705	65.27	II
3	Fertilizer and irrigation	1080	670	62.03	III
4	Weed management and plant protection	4080	2450	60.04	IV
5	Mulching and intercropping	840	460	54.76	V
6	Nursery Management	840	422	50.23	VI

Table 4 stated that transplanting of papaya seedling was most important practice adopted by the papaya growers with 76.38 per cent mean score index and ranked first followed by harvesting (65.27 per cent), fertilizers and irrigation (62.03 per cent), weed management and plant protection (60.04 per cent), mulching and intercropping (54.76 per cent) and nursery management (50.23 per cent) practices adopted by papaya growers ranked according to order of importance.

The finding is supported by the findings of Kumar (2012), Pandya and Timbadia (2016) and Patel (2012).

## CONCLUSION

The result regarding knowledge level of recommended papaya cultivation technology revealed that more than two-third (67.50 per cent) of the papaya growers had medium level of knowledge followed by 16.67 per cent and 15.83 per cent papaya growers with low and high level of knowledge, respectively. Whereas, practice- wise knowledge of the papaya growers about recommended papaya cultivation technology revealed that the most important practices in which respondents had higher knowledge were transplanting and fertilizer/irrigation having obtained mean score 80.59 per cent and 72.62 per cent and ranked first and second, respectively.

The result regarding adoption of recommended technology of papaya indicated that nearly two-third (65.00 per cent) of the papaya growers had medium extent of adoption followed by 20.84 per cent and 14.16 per cent papaya growers who had low and high level of extent of adoption, respectively. whereas, practice- wise adoption of recommended technology of papaya, it can be concluded that the most important practices in which respondents had higher adoption were transplanting and harvesting having obtained mean score 76.38 per cent and 65.27 per cent and ranked first and second, respectively.

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Received :September 2017 : Accepted : November 2017