A CRITICAL ANALYSIS OF TECHNOLOGICAL GAP IN THE ADOPTION OF RECOMMENDED AONLA PRODUCTION TECHNOLOGY

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ABSTRACT

A study was conducted in five panchayat samities of Jaipur district of Rajasthan having the maximum area of aonla fruit crop to find out the technological gap in the adoption of recommended aonla production technology. The 200 farmers were selected by using proportionate random sampling technique. The study revealed that the overall technological gap was found 49.25 per cent in the recommended aonla production technology. Majority of the respondents had medium level of technological gap. The extent of technological gap in the recommended varieties, irrigation application, fertilizers application and plant protection measures was found 51.60, 52.29, 67.51 and 75.68 per cent, respectively, while 29.02, 32.03, 42.24 and 43.61 per cent technological gap existed in practices like recommended plant population, spacing, pit size and depth of planting in aonla production, respectively.

Key words : Technological gap, Aonla Production Technology, Adoption

INTRODUCTION

Aonla is an important minor fruit crop because of its large-scale use in Ayurvedic and Homoeopathic medicines. Aonla is most suitable for cultivation under varied agro-climatic conditions of Rajasthan. It is cultivated in almost all the districts of Rajasthan. The Jaipur district occupies prime position in area and production of aonla. In the year1999-2000, the Department of Horticulture, Govt. of Rajasthan had declared Jaipur district as "aonla District". But, when we look to the productivity of aonla, it stands very low (36 qt/ha.) as compared to other districts (43 qts/ha) of Rajasthan. The scientists have evolved improved technologies but the farmers have not adopted due to various reasons that resulted in the technological gap in adoption of recommended technologies. Technological gap is the difference between the recommended and the adopted practice. Therefore, a study was carried out to find out the technological gap in the adoption of recommended aonla production technology.

METHODOLOGY

The study was conducted in purposely selected Jaipur district of Rajasthan. The five panchayat samities from the said district were selected on the basis of maximum area of aonla fruit crop as compared to other panchayat samities of Jaipur district. A list of farmers who planted aonla at least half an acre in the reference year was prepared from each selected panchayat samities, then farmers were selected by using simple random sampling technique in such a way that number of farmers selected were proportional to the total number of aonla grower in the said panchayat samiti making a total sample of 200.

An interview schedule consisting of measuring devices of technological gap was used for collecting responses of the farmers. The data were collected by personal interview method. With the help of technological gap index developed by "All India Co-ordinated Research Programme in Extension Education". I.A.R.I., New Delhi (1979), the technological gap was measured by using the following formula

$$\text{Technological gap index} = \frac{R - P}{R} \times 100$$

R = Recommended practice

P = Practice actually adopted

On the basis of technological gap score, mean and standard deviation were computed for classifying the respondents on the basis of extent of technological gap into three categories namely, high, medium and low.

RESULTS AND DISCUSSION

A. Distribution of the farmers according to their technological gap–The data presented in the table 1 reveal that 65 per cent respondents belonged to medium level of technological gap followed by low technological gap (17 per cent). About one sixth (18 per cent) of the total sampled population adopted the recommended aonla production technologies to little extent which was considered as high level of technological gap.

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Table 1. Distribution of the farmers according to their technological gap with respect to recommended aonla production technology

S. No.	Technological gap	Frequency	Percentage
1.	Low (Score up to 32.77)		
2.	Medium (Score from 32.78 to 65.73)		
3.	High (Score above 65.73)		
	Total	**200**	**100**

Mean technological gap= 49.25, SD = 16.48

It can be said that majority of farmers had technological gap of medium to high category in adoption of recommended aonla production technology. It was also reported that more than half of the respondents, had been facing the constraints like high cost of improved seedlings, adverse weather, lack of knowledge of fertilizer application, water management, high cost of manure and fertilizers, low availability of irrigation water, paralyzed distribution of seedlings due to personal biasness, insufficient supply and high cost of electricity for operating the pumps. These problems might have been the reasons for low adoption of recommended aonla production technology. The finding of the study was in line with the findings of, Trivedi (1986), Das et al. (1998) and Sharma (1999).

B. Extent of technological gap with respect to selected practices of recommended aonla production technology–Table 2. presented the extent of technological gap with respect to individual practices of aonla production. It was observed that 49.25 per cent overall technological gap existed in the recommended aonla production technology. It means that on an average the recommended package of practices in aonla production was adopted to the extent of 50.75 per cent only.

Table 2. Extent of technological gap with respect to selected practices of recommended aonla production technology

S. N.	Package of practices	Extent of technological gap (per cent)	Rank
1.	Improved varieties	51.60	IV
2.	Plant population	29.02	VIII
3.	Spacing	32.03	VII
4.	Pit size	42.24	VI
5.	Depth of planting	43.61	V
6.	Irrigation application	52.29	III
7.	Fertilizer application	67.51	II
8.	Plant protection measures	75.68	I
	Over all technological gap	**49**	**25**

1. Improved variety–The table 2 revealed that 51.60 per cent technological gap existed in adoption of recommended high yielding varieties of aonla in the study area. This might be due to the reason that the farmers were not getting certified variety seedlings. The Govt. itself does not raise nurseries and give contract to the contractors and the persons, who got contract of raising nurseries, raised the local varieties at the nurseries for getting more profit. Findings of this study are in line with the findings of Bhati (1999) and Dayama (2000)

2. Plant population–Plant population is the deciding factor of aonla production that ultimately affects the yield. The lowest technological gap (29.02 per cent) was found in the adoption of recommended plant population in the area under study. It means plant population/ha was kept up to the extent of 70.98 per cent by the total sampled farmers.

3. Spacing–The 32.03 per cent technological gap was found in the adoption of recommended spacing of aonla in the area under study. It means, the sample farmers adopted 67.97 per cent of the recommended spacing.

4. Pit size–The 42.24 per cent technological gap was observed in the adoption of recommended pit size of aonla production. This might be due to the constraints like high cost of digging the appropriate size of pits and the lack of knowledge about the pit size for aonla plantation. Similar result was also reported by Dayama (2000).

5. Depth of planting–According to recommendations of the scientists, depth of planting of aonla plantings affects the survival percentage of aonla seedling, which decide the plant establishment and production. There was 43.61 per cent technological gap in the adoption of recommended depth of planting of aonla seedling. The lack of knowledge about the recommended depth of planting may be the major factors responsible for the technological gap in above said findings. The findings of study were matched with the findings of Dayama (2000), who reported that there was 50 per cent extent of adoption found in the recommended depth of planting in aonla orchard.

6. Irrigation application–The technological gap in the adoption of irrigation was 52.29 per cent in aonla fruit crop. It means that there was only 47.71 per cent adoption of irrigation to the aonla plants against the recommended requirement. This 52.29 per cent technological gap was found due to shortage of irrigation water, lack of knowledge about water mgt. practices and less availability of irrigation water when needed. Findings are in line with the findings of Shekhawat

(1997) and Bhati (1999). However, Sharma (2001) was found 86.40 per cent, 61.90 per cent technological gap in water management in crop production, respectively.

7. Fertilizer application–The 67.51 per cent technological gap was existed in the recommended fertilizer application to the aonla fruit tree in the area. It means that there was only 32.49 percent adoption of the total recommended fertilizers to be applied in the aonla fruit crop. It was observed that the gap in the recommended doses of fertilizers application and doses actually applied by the farmers appeared due to lack of knowledge about their application and high cost of the manure and fertilizers. The findings had similarity with the findings of Bhati (1999)

8. Plant protection measures–This is important to note that technological gap in use of plant protection measures in aonla existed to the extent of 78.68 per cent. It indicated that there was only 24.32 per cent adoption of plant protection measures in aonla fruit crop. This wide gap in the adoption of plant protection technology might be due to lack of knowledge about their use and high cost of chemicals The findings were in conformity with Bhati, (1999)

As a whole, the study revealed that highest technological gap was found in plant protection measures followed by fertilizer management, irrigation application, improved varieties, depth of planting, pit size, spacing and plant population

CONCLUSION

The overall technological gap was found 49.25 per cent in the recommended aonla production technology. Majority of the respondents (65 per cent) had medium level of technological gap followed by low technological gap (17 per cent) and about one sixth (18 per cent) of the total sampled farmers having high technological gap. The technological gap in the recommended varieties, irrigation application, fertilizers application and plant protection measures, was found to be 51.60, 52.29, 67.51 and 75.68 per cent, respectively, while 29.02, 32.03, 42.24 and 43.61 per cent technological gap existed in practices like recommended plant population, spacing, pit size and depth of planting in aonla production, respectively.

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