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Technological gap in recommended summer Bajra production technology

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Abstract

Agriculture has always occupied a pride place in Indian economy. The great significance of agriculture in the country's economy is well understood by the fact that it is mainstay of the people. Pearl millet is one of the important crops grown in India and ranks fourth in area after rice, wheat and sorghum in India. Among the different millets, pearl millet occupied highest area and production in Gujarat. The present study was conducted in Banaskantha District of Gujarat State. Among 14 talukas of Banaskantha district, three talukas viz, Tharad, Dhanera and Deesa talukas were selected purposively due to the highest area under summer bajra cultivation among rest talukas of the district. The random sampling technique was used for selection of villages and respondents. Ex-post facto research design was used for this study. The study was conducted to know the technological gap in summer bajra growers of Banaskantha district. Technological gap has been defined as the proportion of gap in the adoption of castor production technology and it is expressed in percentage. In the present study technological gap was operationalized on the division in adoption of summer bajra production technology by the summer bajra growers and expressed in percentage. They revealed that the high technological gap was observed 100.00 percent recommended variety and Gap filling or thinning also technological gap was observed 100.00 percent in Line sowing, plant protection 91.30 percent, seed treatment 84.75 percent, FYM/ chemical fertilizer 78.63 percent, interculturing 54.00 percent, seed rate 38.00 percent, harvesting 28.00 percent, weed control 21.57 percent, sowing time 18.34 percent, crop rotation 10.44 percent, irrigation schedule 08.75 percent, spacing (broadcasting) zero percent which were ranked as first to thirteen, respectively.

Keywords: Technological gap, adoption, summer bajra production technology

Introduction

Agriculture has always occupied a pride place in Indian economy. The great significance of agriculture in the country's economy is well understood by the fact that it is mainstay of the people. For improving rural peoples economic condition, agricultural production has to be increased through improved techniques suited to local condition. If the country has to attain self-sufficiency in agricultural production, farmer must be convincingly persuaded to accept new agricultural technology. Among all these crops, cereal crops have a specific place in Indian agriculture. Cereal crops comprising rice, wheat, bajra, jowar *etc.*, are important on global basis which play a pivotal role in agriculture and export trade of India. Pearl millet (*Pennisetum glaucum* L.) is the most popular cereal crop grown in tropical semi-arid regions of the world and belongs to the family of Gramineae. The common name of Pearl millet over a large part of India is bajra or *bajri*. Pearl millet is one of the important crops grown in India and ranks fourth in area after rice, wheat and sorghum in India. India occupies the first position in area (7.8 million ha) and production (9.25 million tonnes) of pearl millet, with an average productivity of 12.70 qtl/ha. The average yield of pearl millet in Gujarat has increased at the growth rate of 5.29 percent while it has increased by 4.08 percent in India over the last ten years (2015 to 2016) (Directorate of Economics & Statistics). Banaskantha is important summer bajra growing district with an area 1.4 lakh ha and production 3.9 lakh MT (Directorate of Agriculture Gujarat State Gandhinagar) but the main problem as it exists today is that last few years Banaskantha district having decreasing way of area and production in summer bajra due to low awareness of new technologies and low yield as compare to different another crops. Though summer bajra is assuming prime importance in cereal crop among the farming community, there exist a wide gap between average yield of common farmers and actual potential of the crop. This demands urgent attention to the reasons encountered. Keeping in view the low yield of summer bajra at farmer's level, it is realized to know the level of technological gap with respect to summer bajra production technology.

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The several constraints influence the transfer of the technology on the farm. Such constraints may be technological, socio-economic, organizational, infrastructural facilities and extension service related. Considering all these aspects in view, the present study entitled “Technological gap in summer bajra production technology by the farmers of Banaskantha district” was carried out with following specific objectives:

Objectives

- 1) To determine the extent of technological gap in recommended summer bajra production technology

Methodology

The present investigation was carried out in Banaskantha district of Gujarat State. Among 14 talukas of Banaskantha district, three talukas viz, Tharad, Dhanera and Deesa talukas were selected purposively due to the highest area under summer bajra cultivation among rest talukas of the district.

The random sampling technique was used for selection of villages and respondents. Five villages from each taluka were selected randomly. From each village ten summer bajra growers were selected randomly. Thus, total 150 respondents were selected for the study. Ex-post facto research design was used for this study. The data were collected by personal contact method with the help of structured interview schedule.

Results and Discussion

Extent of technological gap in recommended summer bajra production technology by the summer bajra growers

The extent of technological gap in adoption of different recommended summer bajra production technology among the summer bajra growers are summarized in Table 1. The data presented in Table 1 indicate that the practice-wise technological gap varied from practice to practice. The practice-wise technological gap among the summer bajra growers was ranging from 00.00 to 100.00 percent.

Table 1: Extent of technological gap in recommended summer bajra production technology by the summer bajra growers

Sr. No.	Different practice wise of recommended summer bajra production technology	Adoption (%)	Technology gap (%)	Rank according to technological gap
1.	Recommended variety	00.00	100	I
2.	Seed rate	62.00	38.00	VII
3.	Method of sowing			XIII
	Line sowing	00.00	100	
	Broadcasting	100	00.00	
4.	Seed treatment	15.25	84.75	IV
5.	Sowing time	81.66	18.34	X
6.	FYM/ Chemical fertilizer	21.37	78.63	V
7.	Irrigation schedule	91.25	08.75	XII
8.	Gap filling or thinning	00.00	100	II
9.	Interculturing	46.00	54.00	VI
10.	Weed control	78.43	21.57	IX
11.	Crop rotation	89.56	10.44	XI
12.	Plant protection	08.75	91.30	III
13.	Harvesting	72.00	28.00	VIII
Overall Technological gap		51.25	48.75	

The data presented in Table 1 revealed that the high technological gap was observed 100.00 percent recommended variety and Gap filling or thinning, also technological gap was observed 100.00 percent in Line sowing, plant protection 91.30 percent, seed treatment 84.75 percent, FYM/chemical fertilizer 78.63 percent, interculturing 54.00 percent, seed rate 38.00 percent, harvesting 28.00 percent, weed control 21.57 percent, sowing time 18.34 percent, crop rotation 10.44 percent, irrigation schedule 08.75 percent, spacing (broadcasting) zero percent which were ranked as first to thirteen, respectively.

The probable reason might be summer bajra growers were not using recommended varieties of universities because the seed of such varieties was not available in the market. Summer bajra growers avoiding thinning because they growing summer bajra for dual purpose crop like grain as well as fodder and also not following gap filling.

In spacing practices, summer bajra growers mostly used broadcasting method but they don't use line spacing. that why in line spacing technological gap was 100.00 percent. This finding supported by the earlier findings of Sharma (2012) [7], Jayabhaye (2014) [4], Nirwan (2016) [5] and Patel (2019) [6].

Extent of Technological gap in recommended summer bajra production technology by the summer bajra growers

The technological gap refers to the difference between technology recommended by the scientists and actual technology adopted by the farmers. It was felt that agricultural technology is not generally adopted by the farmers completely in all respects. As a result, technological gap appears and poor yield is obtained. Keeping this in view, technological gap has been studied.

Table 2: Distribution of the summer bajra growers according to their overall technological gap

Sr. No.	Category	Frequency	Percent
1	Low technological gap (≤ 24.48 score)	25	16.67
2	Medium technological gap (>24.48 to <58.14 score)	91	60.66
3	High technological gap (≥ 58.14 score)	34	22.67
Total		150	100.00
Mean= 41.31			
S.D. = 16.83			

The data presented in Table 2 is indicate that slightly more than two-third (60.66%) of the summer bajra growers were having medium technological gap followed by 16.67 and 22.67 percent having low and high technological gap, respectively.

The possible reason for this might be that the farmers could not get the message of improved package of practices in time in acceptable form. Further, farmers might have tried their best to use and adopt the summer bajra cultivation but some constraints might have hindered them to do so, and hence, technological gap might have been observed.

The similar findings have been reported by Jayabhaye (2014)^[4], Singh *et al.* (2014)^[8], Nirwan (2016)^[5], Choudhary *et al.* (2018)^[3] and Patel (2019)^[6].

Conclusion

From the above results it can be conclude that slightly more than two-third (60.66%) of the summer bajra growers were having medium technological gap followed by 16.67 and 22.67 percent having low and high technological gap, respectively. In extent technological gap, the maximum technological gap was observed in 100.00 percent recommended variety and Gap filling or thinning, also technological gap was observed 100.00 percent in Line sowing, plant protection 91.30 percent, seed treatment 84.75 percent.

Policy Implication

The authors of the paper declare no conflict of interest.

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