

Technological Gap in Adoption of Recommended Maize Seed Production Practices by the Maize Seed Producers

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ABSTRACT

The low yield of maize seed could be attributed to the fact that the farmers have not still adopted all the recommended cultivation practices of the crop to the desired extent, in spite of continuous efforts of the extension workers. Apart from this seed replacement ratio also influence the production. Due to lacking in technical know-how of seed production, the seed producers do not reach to the expected level of seed production. The present study was conducted in Dahod district with randomly selected 120 maize seed producers. The practice wise technological gap observed in adoption of recommended maize seed production technology were chemical weed control, seed treatment with fungicide and seed treatment with bio-fertilizer. The overall technological gap combining all the practice was observed 34.05 per cent in adoption of recommended maize seed production practices. The independent variables studied viz., education, mass media exposure, innovativeness, market orientation, economic motivation and knowledge had negative and significant correlation with overall technological gap of maize seed producers, whereas age of the maize seed producers had positive and significant correlation with overall technological gap.

Keywords : Technological gap, Adoption, Maize seed producers

INTRODUCTION

Technological gap primarily depends upon the transfer of an application of technology by making the use of available resources. It is intimately related with the application of science and technology in the farming. Therefore, increase in agricultural production, economic and social benefits are directly dependent on the extent to which farmers use the improve technology. Its success is frequently dependent on an understanding of the society in which it is to take place, knowledge of the social and cultural factors that conditioning farmers' responsiveness to technological change and the ability to obtain willing cooperation of the people involved.

The importance of quality seed has been recognized from the time immemorial. Seed quality has been treated as sacred, being an important factor in the improvement of agriculture and grain societies. The low yield of maize seed could be attributed to the fact that the farmers have not still adopted all the recommended cultivation practices of the

crop to the desired extent, in spite of continuous efforts of the extension workers. Apart from this seed replacement ratio also influence the production. Due to lacking in technical know-how of seed production, the seed producers do not reach to the expected level of seed production.

The seed yield gap depends upon technological gap and the extent of technological gap in different production components of the technology contributes differently to the yield gap. The present study was undertaken with the following specific objectives.

OBJECTIVES

- (i) To know the extent of technological gap in adoption of recommended maize seed production practices by the maize seed producers
- (ii) To know the relationships between the characteristics and technological gap in adoption of recommended maize seed production practices by the maize seed producers.

METHODOLOGY

Dahod district is comprised of seven talukas. Out of these, four talukas were selected purposively for the study, where maize seed production programme was undertaken during last three years. Three villages from the each taluka was selected purposively where maize seed production programme was undertaken Thus, total twelve villages were selected for the present study. A comprehensive list of the maize seed producers were obtained from district agriculture officer Dahod. The name of all maize seed producers were arranged in alphabetical order of each village separately. From this list, 10 maize seed producers were selected randomly for the study. Thus, 120 maize seed producers were selected for the study.

RESULTS AND DISCUSION

Component wise average technological gap in adoption of recommended maize seed production technology

It could be inferred from the Table 1 that the practice wise technological gap observed in adoption of recommended maize seed production technology in descending order of rank were chemical weed control (60.00per cent, Rank-I), seed treatment with fungicide (51.66 per cent, Rank-II), seed treatment with bio-fertilizer (50.00 per cent, Rank-III), disease management (45.00 per cent, Rank-IV), application of nitrogenous fertilizer after sowing (44.58 per cent, Rank-V), application of nitrogenous fertilizer (43.34 per cent, Rank-VI), insect control (43.33 per cent, Rank-VII), thinning (40.00 per cent, Rank-VIII), irrigation (35.84 per cent, Rank-IX), interculturing (35.41 per cent, Rank-X), spacing (35.00 per cent, Rank-XI), hand weeding (33.95 per cent, Rank-XII), time of sowing (29.00 per cent, Rank-XIII), application of FYM (28.75 per cent, Rank-XIV), application of phosphatic fertilizer (27.50 per cent, Rank-XV), harvesting (23.75 per cent, Rank-XVI), rouging (15.00 per cent, Rank-XVII), land preparation (13.00 per cent, Rank-XVIII) and seed rate (0.00 per cent, Rank-XIX).

Table 1 : Component wise average technological gaps in adoption of recommended maize seed production technology
n=120

Sr. No.	Different components of maize seed production technology	Technological gap (per cent)	Rank
1	Land preparation	13.00	XVIII
2	Time of sowing	29.00	XIII
3	Seed rate	00.00	XIX
4	Seed treatment with fungicide	51.66	II
5	Seed treatment with bio-fertilizer	50.00	III
6	Spacing	35.00	XI
7	Application of FYM	28.75	XIV
8	Application of nitrogenous fertilizer	43.34	VI
9	Application of Phosphatic fertilizer	27.50	XV
10	Application of nitrogenous fertilizer after sowing	44.58	V
11	Thinning	40.00	VIII
12	Inter-culturing	35.41	X
13	Hand Weeding	33.95	XII
14	Chemical weed control	60.00	I
15	Irrigation	35.84	IX
16	Rouging	15.00	XVII
17	Insect control	43.33	VII
18	Disease management	45.00	IV
19	Harvesting	23.75	XVI
Overall technological gap (Average)		34.05	

The overall technological gap combining all the listed practice was observed 34.05 per cent in adoption of recommended maize seed production practices.

Overall technological gap in adoption of recommended maize seed production practices

The data in Table 2 clearly indicate that less than two-third (65.00 per cent) of respondents had low technological gap, followed by medium (32.50.per cent), very low (02.50 per cent) technological gap in adoption recommended maize seed production practices, respectively. None of the respondents had high and very high technological gap in adoption recommended maize seed production practices.

Table 2 Distribution of the respondents according to their overall technological gap in adoption of recommended maize seed production practices.

n=120

Sr. No.	Overall technological gap	No.	Per cent
1	Very low (0 to 20 per cent)	03	02.50
2	Low (21 to 40 per cent)	78	65.00
3	Medium (41 to 60 per cent)	39	32.50
4	High (61 to 80 per cent)	00	00.00
5	Very high (81 to 100 per cent)	00	00.00

The possible reasons for this might be that the farmers could not get the message of seed production technology in time in acceptable form. Further, farmers might have tried their best to use and adopt the maize seed production technology but some constraints might have hindered them to do so, and hence technological gap might have observed.

The another reason might be that poor education, low income, small and marginal farmers, low mass media exposure and low extension participation of maize seed producers were responsible for overall technological gap.

Relationship between selected characteristics of the maize seed producers and their overall technological gap in adoption of recommended maize seed production practices

It can be concluded from Table 3 that the independent variables studied viz., education, mass media exposure, innovativeness, market orientation, economic motivation and knowledge had negative and significant correlation with overall technological gap of maize seed producers, whereas age of the maize seed producers had positive and significant correlation with overall technological gap. Rest traits viz., whereas farming experience in maize seed production, annual income, size of land holding, extension participation, scientific orientation, risk orientation, had negative and non-significant relationship with the overall technological gap in adoption of maize seed production technology.

Table 3 Relationship between the profile of maize seed producers and their overall technological gap in adoption of maize seed production technology

Sr. No.	Independent Variables	Correlation Coefficient ('r' value)
1	Age	0.365*
2	Education	-0.280*
3	Farming experience in maize seed production	-0.070NS
4	Extension participation	-0.173 NS
5	Mass media exposure	-0.210*
6	Size of land holding	-0.046 NS
7	Annual income	-0.086 NS
8	Scientific orientation	-0.036 NS
9	Risk orientation	-0.097 NS
10	Innovativeness	-0.194*
11	Market orientation	-0.227*
12	Economic motivation	-0.195*
13	Knowledge regarding maize seed production technology	-0.183*

* Significant at 0.05 level of probability

NS = Non Significant

CONCLUSION

The technological gap observed in adoption of recommended maize seed production technology were chemical weed control, seed treatment with fungicide and seed treatment with bio-fertilizer. The overall technological gap combining all the practice was observed 34.05 per cent in adoption of recommended maize seed production practices. The independent variables studied viz., education, mass media exposure, innovativeness, market orientation, economic motivation and knowledge had negative and significant correlation with overall technological gap of maize seed producers, whereas age of the maize seed producers had positive and significant correlation with overall technological gap.

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