

TECHNOLOGICAL GAP IN RECOMMENDED CASTOR PRODUCTION TECHNOLOGY

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ABSTRACT

Agriculture is the backbone of Indian economy. In India, oilseed crops constitute the second largest agriculture produce next to food grains. Castor is an important cash crop for farmer as well as for country too as it fetches valuable foreign exchange by export of seeds, oil and derivatives to all over the world. The present study was conducted in Patan District of Gujarat State. Among the nine talukas of Patan district, only Patan, Saraswati and Harij this three talukas of Patan district were selected purposively for the reason having highest area under castor cultivation as compared to other talukas of the district. The multi-stage sampling (three stage) technique was used for selection of talukas, villages and respondents. Ex-post facto research design was used for this study. The study was conducted to know the technological gap of castor growers of Patan 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 castor production technology by the castor growers and expressed in percentage. revealed that the high technological gap was observed in plant protection measures 75.40 per cent followed by seed treatment 71.00 per cent, weed control 68.75 per cent, FYM 64.00 per cent, crop rotation 58.35 per cent, chemical fertilizer 51.77 per cent, sowing time 45.10 per cent, spacing 40.67 per cent, seed rate 36.00 per cent, recommended variety 30.33 per cent, harvesting 27.85 per cent, intercropping 21.90 per cent and irrigation schedule 16.00 per cent, which were ranked as first to thirteen, respectively.

Keywords: technological gap, adoption, castor production technology

INTRODUCTION

Castor plant (*Ricinus communis* L.) belongs to *Euphorbiaceae* family. The total area, under castor seed cultivation in India for the year 2019 to 2020 is estimated to be 9.92 lakh hectare and productivity is 2052 kg/ha. Gujarat is the leading castor growing state of the country. Area under castor seed is 647.93 ha with production is 1456.66 tonnes and yield is 2248.17 kg/ha during 2019-20 in Gujarat State. Patan is one of the most important castors growing district of Gujarat State. The area under hybrid castor in this district was 997.85 hectares with a production about 1878.25 Metric Tonnes and productivity of 1882.30 kg/ha during 2015-16. 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 (Kakkad *et al.*, 2021 and Damor *et al.*, 2021). The several constraints influence the transfer of technology pertaining to seed production. Such constraints may be technological, socio-economic, organizational, infrastructural facilities and extension service related. Considering all these aspects, the present study entitled, "Technological gap in castor production technology by the farmers of Patan district" is planned with the specific objectives.

OBJECTIVE

To determine the extent of technological gap in recommended castor production technology

METHODOLOGY

The present investigation was carried out in Patan district of Gujarat State. Among the nine talukas of Patan district, three talukas *viz.*, Patan, Saraswati and Harij were purposively selected based on higher area and production as compare to other talukas of the district. Five villages from each taluka were selected randomly. From each village ten castor 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 castor production technology by the castor growers

The extent of technological gap in adoption of

different recommended castor production technology among the castor growers are summarised in Table 1.

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

(n = 150)

Sr. No.	Different practice wise of recommended castor production technology	Total score	Obtained score	Technology gap (%)	Rank according to technological gap
1	Recommended variety/Hybrid variety	150	46	30.33	X
2	Seed rate	150	54	36.00	IX
3	Spacing	150	61	40.67	VIII
4	Seed treatment	150	107	71.00	II
5	Sowing time	300	135	45.10	VII
6	FYM	150	96	64.00	IV
7	Chemical fertilizer	150	78	51.77	VI
8	Irrigation schedule	300	48	16.00	XIII
9	Interculturing	150	33	21.90	XII
10	Weed control	300	206	68.75	III
11	Crop rotation	150	88	58.35	V
12	Plant protection	300	226	75.40	I
13	Harvesting	300	84	27.85	XI
Overall Technological gap		2700	1262	46.70	

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 castor growers was ranging from 16.00 to 75.40 per cent.

The data presented in Table 1 revealed that the high technological gap was observed in plant protection measures 75.40 per cent followed by seed treatment 71.00 per cent, weed control 68.75 per cent, FYM 64.00 per cent, crop rotation 58.35 per cent, chemical fertilizer 51.77 per cent, sowing time 45.10 per cent, spacing 40.67 per cent, seed rate 36.00 per cent, recommended variety 30.33 per cent, harvesting 27.85 per cent, interculturing 21.90 per cent and irrigation schedule 16.00 per cent, which were ranked as first to thirteen, respectively. This finding was supported by the earlier findings of Kaid, (2004).

Extent of Overall Technological gap in recommended castor production technology by the castor 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 castor growers according to their overall technological gap (n=150)

Sr. No.	Technological gap	Frequency	Per cent
1	Low (< 7.00 score)	22	14.67
2	Medium (≥ 7.00 to < 13.00 score)	91	60.66
3	High (≥ 13.00 score)	37	24.67
Mean= 10.00		S.D. = 2.99	

The data presented in Table 2 is indicate that slightly more than two-third (60.66 per cent) of the castor growers were having medium technological gap followed by 14.67 and 24.67 per cent castor growers were having low and high technological gap, respectively. Thus, it can be inferred that (60.66 per cent) of the castor growers had medium extent of adoption. The probable reason for this might be that they had medium level of knowledge, extension contact, scientific orientation, as well as several constraints they faced and limited resources with them.

The similar findings have been reported by Markana, (2016), Chaudhary, *et al.* (2018) and Chaudhary, (2019).

CONCLUSION

This study conclude that Slightly more than three fifth (60.66 per cent) of the castor growers were having medium technological gap followed by 14.67 and 24.67 per cent castor growers were having low and high technological gap, respectively. In extent technological gap, the maximum

technological gap was observed in plant protection measures 75.40 per cent followed by seed treatment 71.00 per cent, weed control 68.75 per cent.

CONFLICT OF INTEREST

The authors of the paper declare no conflict of interest

REFERENCES

Chaudhary, H.A. (2019). Technological gap in fennel crop among the tribal farmers of Banaskantha district. *M.Sc. (Agri.) Thesis (Unpublished)*, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar.

Chaudhary, R.; Bhadu, K. and Poonia, T. (2018). To Study of Gap in Technology Adoption in Rapeseed - Mustard Cultivation in Ambala. *Bulletin of Environment, Pharmacology and Life Sciences*. 7 (7): 63-67.

Damor, C. B., Rathod, D. M. and Chauhan, C. D. (2021)

Knowledge and adoption of recommended scientific practices of castor growers about castor cultivation. *Guj. J. Ext. Edu.* 32(1):16-19.

Kaid, S.V. (2004). Technological gap in kharif fennel cultivation by fennel growers in Palanpur taluka of Banaskantha district of Gujarat State. *M.Sc. (Agri.) Thesis (Unpublished)*, submitted to Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar.

Kakkad, D. M., Patel, G. R. and Patel, S. R. (2021) Knowledge level of FLD and non FLD farmers about castor production technology. *Guj. J. Ext. Edu.* 32(2):45-48.

Markana, J.G.; Kalsariya, B.N.; Jadeja, M.K.; Patel, J.V. and Marviya, P.B. (2016). Technological gap in adoption of improved cultivation practices by kharif groundnut growers. *International Journal of Agriculture Sciences*. 27 (8): 1583-1585.

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