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Overall technological gap of the tribal fennel growers regarding recommended fennel production technology

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Abstract

India with varied climatic and soil is natural home of spices. Spices may be defined as one of the very strongly flavored or aromatic substances of vegetable origin obtained from tropical or other plants. Among all the minor spices grown, fennel (*Foeniculum vulgare* P. Miller) locally known as "Variyali" is one of the important spices crop. The share of Banaskantha district in spice production is 12.24 per cent and in fennel production is 8.38 per cent in Gujarat. Thus, Banaskantha district was selected purposively. Two tribal dominating talukas viz; Amirgadh and Danta were selected purposively. Ten villages were selected randomly from each taluka having area covered under fennel cultivation. Thus, total twenty villages were selected. From each selected village, six respondents were selected randomly making a sample of 120 respondents. Ex-post facto research design was followed for carrying out the study. The result of study shows that in case of overall technological gap, 70.00 per cent tribal fennel growers had medium technological gap, followed by high (15.84%) and low (14.16%) technological gap in recommended fennel production technology. Whereas practice wise technology gap among various recommended technologies, there were high technological gap in plant protection measures (57.50%), followed by irrigation schedule (54.17%), seed rate (51.67%). The medium technological gap was observed in nursery raising (49.16%), chemical fertilizer (48.34%), recommended variety (46.67%) and spacing (44.17%). The low technological gap was found in stage of hand weeding (27.50%), stage of harvesting (26.67%), transplanting (25.84%), time of sowing (20.84%), earthing up (18.34%) and FYM (14.17%).

Keywords: Technological gap, tribal fennel growers

Introduction

A spice is substance of plant origin, primarily from various parts of the plant such as dried seed, fruit, root and bark which is used in very small quantities as a food additive for flavor, color and as a preservative. Many spices are also used for purposes of medicine and religious rituals in Asia and in cosmetics, perfumery and liquors in other parts of the world.

Spices add color, flavor and zing to food, besides helping digestion. About 60 spices are cultivated, most of which are concentrated in the Mediterranean region and Asia, from where they most probably originated. Spices are grouped according to the type of plant, the part of the plant used, and growing time. Based on the last criterion, they can be subdivided into perennials and annuals.

Fennel is cultivated in China, Egypt, France, Italy, India, Japan, Russia, Czechoslovakia, Hungary and Germany. India is one of the major fennels producing countries in the world. Major producing states of fennel in India are Rajasthan, Andhra Pradesh, Punjab, Madhya Pradesh, Uttar Pradesh, Gujarat, Karnataka and Haryana. Fennel crop is mostly cultivated in Sabarkantha, Mahesana, Ahmedabad and Banaskantha district of North Gujarat. Fennel is an important spices crop of Banaskantha district.

The average yield of fennel crop in Banaskantha district is

too low (i.e., 2160 kg/ha) as compared to average yield of Research station (i.e., 2400-3000 kg/ha). Considerable efforts have been made for increasing fennel area and production during last few years, but even then, the yield per unit area is low in Banaskantha district. This might be due to the lack of scientific knowledge of fennel production technology. The study was undertaken with the following specific objectives.

Objective

To determine the existing technological gap among the tribal fennel growers regarding recommended fennel production technology

Methodology

This study was conducted in purposively selected Banaskantha district. According to area under fennel cultivation, Banaskantha district rank fourth in Gujarat state. The tribal farmers of the district have adopted the fennel cultivation. Thus, the study was confined to tribal region of the district. Banaskantha district has two tribal dominating talukas. Both the talukas of the district viz; Amirgadh and Danta were purposively selected as the study is confined to tribal fennel growers. Ten villages from each taluka having fennel under cultivation were selected randomly. Total 20

villages were selected for the study. From each randomly selected village of selected talukas, six fennel growing tribal farmers were selected randomly. Thus, total 120 respondents were selected for the study.

Results and Discussion

Overall technological gap

On the basis of score obtained by the tribal fennel farmers, they were grouped in to three categories viz., (i) low, (ii) medium (iii) high technological gap. The data regarding this aspect are presented in Table 1.

Table 1: Distribution of tribal fennel growers according to their overall technological gap (n=120)

| Sr. No. | Technological gap | Frequency | Per cent |
|-------------|-------------------------------|-------------|----------|
| 1. | Low (up to 21.98 score) | 17 | 14.16 |
| 2. | Medium (21.99 to 39.83 score) | 84 | 70.00 |
| 3. | High (above 39.83 score) | 19 | 15.84 |
| Total | | 120 | 100.00 |
| Mean =30.91 | | S.D. = 8.92 | |

Table 2: Extent of technological gap in recommended fennel production technology by the tribal fennel growers

| Sr. No. | Practices | Adoption (%) | Technology gap (%) | Rank according to technological gap |
|---------|--------------------------------|--------------|--------------------|-------------------------------------|
| 1. | Recommended variety | 53.33 | 46.67 | VI |
| 2. | Nursery raising | 50.83 | 49.17 | IV |
| 3. | Transplanting | 74.16 | 25.84 | XII |
| 4. | Time of sowing | 79.16 | 20.84 | XIII |
| 5. | Seed rate | 48.33 | 51.67 | III |
| 6. | Spacing | 55.83 | 44.17 | VII |
| 7. | FYM | 85.83 | 14.17 | XIV |
| 8. | Chemical fertilizer | 51.66 | 48.34 | V |
| 9. | Irrigation schedule | 45.83 | 54.17 | II |
| 10. | Gap filling | 63.33 | 36.67 | IX |
| 11. | Interculturing and earthing up | 60.83 | 39.17 | VIII |
| 12. | Hand weeding | 72.50 | 27.50 | X |
| 13. | Plant protection measures | 42.50 | 57.50 | I |
| 14. | Stage of harvesting | 73.33 | 26.67 | XI |

The data presented in Table 2 revealed that the high technological gap was observed in plant protection measures (57.50%), followed by irrigation schedule (54.17%), seed rate (51.67%). The medium technological gap was observed in nursery raising (49.16%), chemical fertilizer (48.34%), recommended variety (46.67%) and spacing (44.17%).

The low technological gap was found in stage of hand weeding (27.50%), stage of harvesting (26.67%), transplanting (25.84%), time of sowing (20.84%), earthing up (18.34%) and FYM (14.17%).

Conclusion

It can be concluded that Majority of the tribal fennel growers (70.00%) were having medium technological gap, followed by 15.84 per cent and 14.16 per cent tribal fennel growers were having high and low technological gap, respectively.

It is there for revealed that the high technological gap was observed in plant protection measures (57.50%), followed by irrigation schedule (54.17%), seed rate (51.67%). The medium technological gap was observed in nursery raising (49.16%), chemical fertilizer (48.34%), recommended variety (46.67%), spacing (44.17%). The low technological gap was found in stage of harvesting (27.50%),

The result of the Table 1 stated that 70.00 per cent tribal fennel growers had medium technological gap, followed by high (15.84%) and low (14.16%) technological gap in recommended fennel production technology.

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, farmer might have tried their best to use and adopt the fennel cultivation but availability of resources might have hindered them to do so, and hence technological gap might have observed.

Practice wise Technological gap

The extent of technological gap in adoption of recommended fennel production technology among the tribal fennel growers are summarized in Table 2.

The data presented in Table 2 indicated that the practice wise technological gap varied from practice to practice. The practice wise technological gap among the tribal fennel growers was ranging from 14.17 per cent to 57.50 per cent.

transplanting (25.84%), time of sowing (20.84%), earthing up (18.34%), FYM (14.17%), hand weeding (12.50%) and gap filling (10.84%).

This might be due to the facts that farmers do not possess proper knowledge about the recommended plant protection measures, critical stages of irrigation, sowing rate/doses of seed, nursery raising, recommended variety, organic manure, and sowing distance. They were using more or less the recommended rate/dose of these practices.

Therefore, it is clearly revealed from the findings of this study that skill required technologies are less adopted by the farmers, however adoption of easy and low-cost technologies is higher, which might be the proper reason of observed findings.

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