Original Research Article

Constraints on Cole crop of production and marketing by using Garrett ranking

Abstract

The present study was conducted in the Sultanpur district of Uttar Pradesh State to identify the constraints in cole crop cultivation, production, and marketing as perceived by the cole crop growers. Garrett ranking was employed. A random sample method was used to pick respondents for this investigation. Two blocks were chosen for the current study to generate the study's inferences. The survey covered ten communities and 120 farmers in the chosen villages. Data acquired for the study covering the years 2021-22.Primary data was collected from selected cole crop growers through personal interview method with the help of a pretested schedule. The main production constraints noticed were non-availability of Credit, Lack of knowledge about the latest production technology, non-availability of quality water, assistance by the government, and Poor quality land. The main marketing constraints were Price fluctuations, Lack of scientific storage facilities, High cost of transportation, lack of demand for Produce in the local area, Lack of scientific knowledge and training

Keywords: Constraints, Production and Marketing

INTRODUCTION

Cole crops were named after the Latin word "Caulis," which means "plant stem or stalk." Cole crops are one of the most diverse groups of temperate vegetables, including cauliflower (Brassica oleracea var. botrytis), cabbage (B. oleracea var. capitata), sprouting broccoli (B. oleracea var. italica), Brussels sprout (B. oleracea var. gemmifera), kale (B. oleracea var. acephala), and knolkhol (B. oleracea var. gongylodes). Cole crops are high in vitamin C and include a variety of minerals. Carotene is abundant in broccoli and kale (Shah and Ansari, 2021).

Several volatile sulphur compounds contribute to the characteristic aroma of cole crops. Antioxidants and phytochemicals that aid in the prevention of cancer and heart disease. The main fragrance component in cooked Brassicaceous vegetables has been identified as dimethyl trisulfide(Dhurwey*et al.*,2015).

India is the world’s second largest producer of vegetables (101mt) after China. Cabbage and cauliflower are the major cole crops but broccoli and knolkhol are also being cultivated in limited scale. In India, cabbage and cauliflower are ranked 4th and 5th places, respectively, the

total area and production of cabbage in India was 400 (mha) and 9127 (mt) respectively in 201819. And the total area and production of cauliflower in India was 465 (mha) and 9083 (mt) respectively in 2018-19 (Kant *et al.*,2020)

The production of cabbage in Uttar Pradesh rank 10th in the whole of India, the total area and production of cabbage in Uttar Pradesh was 9.06 (mha) and 302.97 (mt), respectively in 2017-18, and the production of cauliflower in Uttar Pradesh rank 9th in the whole India, the total area and production of cauliflower in Uttar Pradesh was 17.53 (mha) and 400.81 (mt), respectively in 2017-18 (Singh *et al,* 2019).

Sultanpur district of Uttar Pradesh is an agricultural specific district, here vegetable enterprise in the main occupation of the farmers and vegetables are produced in huge quantities. Cauliflower and cabbage are mainly grown in Sultanpur district of Uttar Pradesh.

- *What is the specific back ground for this particular study?(what triggered this study?)*
- *What is the objective (s) of the study?*
- *What are the outcome/the use/purpose of the study?*

MATERIALS AND METHODS

The present study is based on an analysis of primary data at the Sultanpur district of Uttar Pradesh. The 2 blocks were selected for present study. The study covered 10 villages & it covered 120 farmer in the selected villages. Data for the study was gathered for the years 2021-22. Primary data was obtained from chosen cole crop growers using the personal interview approach and pre-tested schedules to obtain information on Constraints in the Production and Marketing of cole crop related elements. The collected data were complied, tabulated and analyzed to accomplish the objectives of the present study.

In order to study the constraints, a schedule was developed in accordance with the available literature. Accordingly, constraints were identified and sub divided into production and marketing constraints and there after the response of the sample farmers were recorded. The data will be analysed by using simple statistical tools such as Garrett's Ranking Technique used by Singh *et al.,* 2022.

***Analytical Tools* Garrett's Ranking Technique:**

The ranks given by the respondents were then converted into percentage position with the help of formula given by Garrett. Garrett's formula for converting ranks into percent is:

$$Percent\ position = \frac{100(R_{ij} - 0.5)}{N}$$

Where, Rij is the rank given to ith item by the jth individual and N is the number of item ranked by the jth individual. The per cent position of each rank thus obtained was converted into scores using Garrett's table. Then for each reason the scores of individual respondents were added and divided by the total number of respondents. Thus the mean score for each constraints was ranked by arranging them in a descending order.

Result and Discussion

1. Production constraints faced by Cole crop growers

Cole crop growers faced by different types of Production constraints in the study area. It is presented in table 1.From the table it'sreveal that the major Production constraint faced by most of the Cole crop growers was Non- availability of Financewith a score of 52.12 (rank I). Keeping this in view, there was a strong need to strengthen extension services amongst the cole crops growers in the study area (strong need should be… a government aid or bank credit, the extension services is too general, not a direct solution?) . The second most important constraint faced by the cole crops growers was Assistance by Government (overall Garrett score 51.91) i.e. delayed precipitation during Rainy season or excessive rainfall or prevalence of winter rains (delay precipitation and excessive rainfall or winter rain are natural phenomena and government cannot do anything about them, preparing drainage system etc. maybe more appropriate etc.). The other most important constraints reported by the cole crops growers were Non-availability of HYV seed overall Garrett score 51.84 (rank III), Unavailability of machine and implements overall Garrett mean score 50.40 with rank IV and Lack of knowledge about balance fertilizer/IPM concept overall Garrett score 49.16 (rank V). In addition to the above problems, the minor problems faced by also Timely Unavailability of labour (VI), Poor confidence in recommended newly technology (VII), Problem of irrigation facilities (VIII), Poor quality of Land (IX), and Unfavorable weather conditions (X) in the study area.

Table 1.Production constraints faced by Cole Crops growers

S.No.	Constraints	Total	Average Score	Final Rank
1	Poor quality of Land	5783	48.19	9
2	Non- availability of Finance	6254	52.12	1
3	Assistance by Government	6229	51.91	2
4	Timely Unavailability of labour	5868	48.90	6
5	Problem of irrigation facilities	5827	48.56	8

6	Unfavorable weather conditions	5780	48.17	10
7	Poor confidence in recommended newly technology	5851	48.76	7
8	Unavailability of machine and implements	6048	50.40	4
9	Lack of knowledge about balance fertilizer/IPM concept	5899	49.16	5
10	Non-availability of HYV seed	6221	51.84	3

2.Marketing constraints faced by Cole crops growers

Cole crop growers faced by various types of marketing problems in the study area. It is presented in table 2. From the content revealed that Problem faced due Lack of scientific storage facilities was ranked as the most important constraint among the Cole crop growers with mean score value of 54.18 (rank I) followed by Lack of skilled labour for grading of Cole crops Garrett score 52.38 (rank II). High cost of transportation was ranked mean score value of 51.86 (rank III), Fourth major constraint reported by the Cole crop growers Higher commission charges overall Garrett score 49.78. Lack of demand of produce in local area which got (rank V) with a score of 49.35. In addition to the above problems, Lack of skilled labour for grading of Cole crops (VI), Problem faced due small quantity of marketable surplus (VII), Lack of availability about market news (VIII). The minor problems faced by also the Perishability nature (IX) and Delay in payment(X) in the study area.

Table No. 2 Marketing constraints faced by Cole cropsgrowers

S.No.	Constraints	Total	Average Score	Final Rank
1	Higher commission charges	5973	49.78	4
2	Lack of availability about market news	5778	48.15	8
3	Lack of skilled labour for grading of Cole crops	5881	49.01	6
4	Lack of demand of produce in local area	5922	49.35	5
5	Lack of scientific storage facilities	6501	54.18	1
6	High cost of transportation	6223	51.86	3
7	Problem faced due small quantity of marketable surplus	5842	48.68	7
8	Lack of skilled labour for grading of Cole crops	6285	52.38	2
9	Delay in payment	5672	47.27	10
10	Perishability nature	5683	47.36	9

CONCLUSION

It is clear concluded that as - The major common production constraints for cole crop, i.e. were non-availability of Credit, Lack of knowledge about the latest production technology, non-availability of quality water, assistance by the government, and Poor quality land. etc. in the study area.

The major common Marketing constraints for cole crop, i.e Price fluctuations, Lack of scientific storage facilities, High cost of transportation, lack of demand for Produce in the local area, Lack of scientific knowledge and training, etc. in the study area.

Reference

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The discussions need to be more precise and comprehensive (are there similar studies previously done? what are the results in comparison to this particular study?).

The paper is too short for an original research; it may be categorized as a short communication (if it is not improved).