CONSTRAINTS FACED BY FARMERS IN FLOWER CULTIVATION UNDER POLYHOUSE TECHNOLOGY IN CHITTOOR DISTRICT OF ANDHRA PRADESH

S. KAVITHA*, S. HYMA JYOTHI, S. RAJESHWARI AND P. LAVANYA KUMARI

Department of Agribusiness Management, S.V. Agricultural College, ANGRAU, Tirupati.

ABSTRACT

To sustain the self sufficiency in food production, we need effective technologies which can improve the productivity and sustainability of our major farming systems. Polyhouse technology, one among improved technologies which ensures stability in agriculture production. But farmers are facing different constraints while adopting polyhouse technologies. Therefore, in the present study an attempt has been made to study the status and constraints in flower cultivation under polyhouse conditions in Chittoor district of Andhra Pradesh. Three mandals of Chittoor district *viz.,* Kuppam, Gangavaram, Palamaner, were selected purposively looking to the more number of respondent who adopted polyhouse technology. The data were collected from each respondent through personal interview method with the help of structured schedule. For better understanding, all the constraints were divided into three categories *viz.,* production, technological and marketing constraints. The overall findings of the study reveal that major production constraints were high initial investment (82), non-availability of credit (72) and technological constraints were the lack of scientific knowledge about crop production under polyhouse (79), lack of technical guidance about production techniques (68) and marketing constraints were the fluctuations in price and seasonal demand (77), middlemen malpractices (63) were the major constraints faced by farmers in adopting polyhouse technologies.

INTRODUCTION

Protected agriculture has emerged as the premier option for the productive use of land and other resources in the current era of declining land holdings followed by a major change in weather and environment. It has the potential to increase the utilization of scarce resources, such as land, water, electricity etc. It has come as a bonanza for marginal as well as small farmers who are from their small land holdings and limited capital can earn a decent livelihood. The main benefit of polyhouse cultivation is that it provides the youth and rural population with opportunities for self-employment. The idea has inspired farmers to cultivate exotic vegetables and flowers throughout the year. The main crops grown in the polyhouses are tomato, capsicum, cucumber, melons, rose, gerbera, carnation and chrysanthemum.

India's 'flower power' continues to flourish, with the nation arising as the world's second largest producer of flowers, exceeded only by China. Based on recent data released by the National Horticulture Board in India during 2017-18, the total land area with respect to loose flower cultivation was 3,24,000 hectares, from which a production of 19,62,000 million tons was obtained (Singh, 2019); Primarily, the growth curve of protected cultivation technology in Indian subcontinent is continuously increasing due to favorable government policies on subsidies under different government schemes like MIDH (Mission for Integrated Development of Horticulture previously known as NHM, (National Horticulture Board) NHB, (Technology Mission) TM, (Rashtriya Krishi Vikas Yojana) RKVY etc.

MATERIAL AND METHODS

The present study was conducted in Chittoor district of Andhra Pradesh state. Three mandals of Chittoor district *viz.,* Kuppam, Gangavaram, Palamaner was selected purposively for the study.

Garrett's ranking technique was adopted for analyzing the production, technical and marketing constraints faced by floriculture polyhouse farmers. In this method the respondents were asked to assign the rank for all the factors and the outcome of such ranking have been converted into score value with the help of following formula.

*Corresponding author, E-mail: kavithaseepana96@gmail.com

Table 1. Constraints faced by farmers cultivating marigold and chrysanthemum flowers under polyhouses

S. No.	Particulars	Mean score	Rank
PRODUCTION CONSTRAINTS			
1	High Intial Investment	82 (15.1)	1
2	High Cost of Planting material	50 (9.09)	6
3	High labour charges	28 (5.09)	10
4	Non availability of credit	72 (13.09)	2
5	High cost of fertilizers and pesticides	59 (10.27)	4
6	Pest and diseases attack	65 (11.81)	3
7	Commercial electricity connection	18 (3.27)	11
8	Non availability of irregular water	45 (8.18)	7
9	Non availability of skilled labour	55 (10)	5
10	Change in climate	35 (6.36)	9
11	Perishability of produce	41 (7.45)	8
TECHNICAL CONSTRAINTS			
1	Lack of scientific knowledge about crop production under polyhouse	79 (19.36)	1
2	Non availability of required quantity and quality planting material at right time	47 (11.52)	5
3	Limited and irregular power supply	20 (4.5)	8
4	Non-availability of quality inputs like pesticides and insecticides at right time	59 (14.46)	3
5	Non-availability of quality polyhouse equipments at local market	32 (7.8)	7
6	Lack of technical guidance about production techniques	68 (16.6)	2
7	Lack of relevant literature in local language	53 (13.1)	4
8	Difficulties in following the recommended practices	40 (9.8)	6

Table 1. Cont...

S. No.	Particulars	Mean score	Rank
MARKETING CONSTRAINTS			
1	Fluctuation in market prices due to seasonal demand	77 (25.7)	1
2	Lack of marketing facilities at local place	46 (15.38)	4
3	Lack of exclusive markets for polyhouse crops	63 (21.07)	2
4	Existence of middlemen malpractices	54 (18.06)	3
5	Lack of specilized supply chain management (SCM) including cold chain	36 (12.04)	5
6	Difficulty in grading at production level	23 (7.69)	6

(Source: Estimates from the survey data of the study, 2021)

$$\text{Per cent position} = \frac{(R_{ij} - 0.5)}{N_j} \times 100$$

where,

R_{ij} is the rank given for i^{th} item by the jth individual.

N_j is the number of variables ranked by the jth individual.

With the help of Garrett's table, the percent position estimated is converted into scores. Then for each factor, the scores of each individual are added and then total value of scores and mean value of score is calculated. The factors having highest mean value is considered to be the most important factor.

RESULTS AND DISCUSSION

Constraints encountered in production and marketing of marigold and chrysanthemum flowers

In production constraints, the high initial investment received the maximum Garret score of 82 and was ranked as the first followed by availability of credit which was with a Garret score of 70. Pest and disease attack and high cost of pesticides and fertilizers were ranked as third and fourth constraints with a Garret score of 65 and 59 respectively. Non- availability of skilled labour (55), high cost of planting material (50), availability of water (45), perishability of produce (41) and change in climate (35) were ranked fifth, sixth, seventh, eighth and ninth respectively. Huge initial investment is the major problem faced by the majority of the farmers. Mostly farmers are relying on money lenders and friends and relatives. Availability of credit was also one of the major problems faced by the growers, though there is government subsidy to the growers, it was paid in installments. So, initially the farmer has to bear the costs and for both the crops variable costs are also high.

Ozkan *et al.* (1997) studied the production structure and main marketing problem of the export-oriented cut flower industry in Turkey. The study concluded that cut flower companies were not highly mechanised but did use a computer accounting system, transportation of cut flowers to the foreign markets was the largest expense item in the cut flower industry, companies faced difficulties in keeping skilled human resource although

there was unemployment. The major suggestions from the managers were to increase competition, price-cutting, cut transportation expenses for export and continuous labour supply.

Naagarajan and Jayavasuki (2016) studied the area under cultivation, production and export of floriculture in India from 1999 to 2014. The major problems faced in the production of flowers as indicated by producers included scarcity of labour, huge investment, non-availability of quality indigenous planting material and incidence of pests.

Sudhagar (2013) studied production and marketing constraints experienced by high-tech floriculture units in Hosur taluk of Tamil Nadu. The major problems faced in the production of cut-flowers as expressed by the hi-tech growers included huge investment in cut-flower production, irregular supply of electricity, scarcity of labour, non-availability of quality indigenous planting material, poor harvest during the rainy season and pest and disease attack on crops.

Sahu *et al.* (2011) studied the growth of floriculture, its role in promoting socio-economic status of floriculturists and emphasised the problems faced by floriculturists of Panskura and Kolaghat Blocks, Purba Medinipur district of West Bengal. It was observed that major constraints faced by the farmers were inadequate cold storage, poor conditions of village roads, frequent fluctuation in the demand and price, lack of good seeds and fertilizers, damage to buds and petals by fly ash from Kolaghat thermal power plant and lack of training facility for farmers engaged in floriculture.

In technological constraints, the lack of scientific knowledge about crop production under polyhouse was ranked as the first constraint with a garret score of 79 followed by lack of technical guidance about production techniques (68), non- availability of quality inputs like pesticides at right time (59) and lack of relevant literature in local language (53), non-availability of required quantity and quality planting material at right time (47), difficulties in following recommended practices(40), non-availability of quality polyhouse equipments at local market(32), limited and irregular power supply (20) were ranked as second, third, fourth, fifth, sixth, seventh and eighth constraints respectively.

Sharma *et al.* (2014) explored economic feasibility and problems related to flower cultivation in Kangra,

Sirmaur and Mandi districts of Himachal Pradesh. They found that lack of training and technical know-how, non-availability quality planting material, post-harvest management of plants, less number of cold stores as well as the high cost of cold storage, non-availability of the local market, lack of organized market and transportation cost were major problems faced by sample farmers.

Bhosale *et al.* (2011) conducted a case study of a farmer growing cut flowers i.e. gerbera on an area of 0.1 hectares under polyhouse. The case study was conducted in Dawdi village of Pune district of Maharashtra. It was observed that major constraints faced by the farmer were price fluctuation, high labour charges, high costs of fertilizers, high taxes on polyhouse construction material. The major suggestions from the farmer were to control price fluctuation, ensure input availability at lower rates and reduce taxes on polyhouse construction material.

Among the marketing constraints, the fluctuations in price and seasonal demand received the highest rank with a Garret score of 77 followed by middlemen malpractices (54) , lack of marketing facilities at local place (46), lack of exclusive markets for polyhouse crops (63) and lack of specialized supply chain management including cold chain (36), difficulty in grading at production level (23) were ranked as second, third, fourth and fifth and sixth constraints respectively.

Amarnath and Vendhan (2017) reported that lack of continuous supply of cut flowers and high price fluctuations were the major problems of intermediaries.

Bagade *et al* (2008) studied the cut flower production and marketing in Ratnagiri district, Maharashtra, India, reported that major marketing constraints included the high cost of packing material and problems with storage, market functionaries, and market infrastructure.

The farmers can take the bank loans instead of depending on the money lenders. As the horticulture officers regularly visit the farms of the growers, the farmers have to utilize this opportunity and gain knowledge about the production and technical aspects. Following practices such as seedling treatment, soil drenching etc., can reduce the incidence of pests and diseases. The production is not continuous in the farms, so the farmers are not able to sell directly to the consumers. The farmers can go for co-operative marketing and directly sell to the end consumer which will increase their share in consumer's rupee.

While analyzing overall constraints as perceived by the farmers, it was found that the high intial investment, non-availability of credit were major production constraints. crops. In technological constraints, the lack of scientific knowledge about crop production under polyhouse, lack of technical guidance about production techniques. Among the marketing constraints, the fluctuations in price and seasonal demand, middlemen malpractices were the major constraints faced by farmers in adopting polyhouse technologies.

LITERATURE CITED

Amarnath, J.S and Vendhan, K.T. 2017. An Economic analysis of cut flower marketing in Tamil Nadu. *Economic Affairs*. 62(4): 621-631.

Bagade, A.D., Talathi, J.M., Naik, V.G and Kamble, S.H. 2008. Production and marketing of cut flower. *Agriculture Update*. 3(1): 131-136.

Singh, B. 2019. Prospects of Protected Horticulture in Arid and Semi-Arid Regions of India. *Acta Scientific Agriculture*. 3(3): 93-99.

Bhosale, M.Y., Shelke, R.D., Aher, V.K and Shenewad, B.A. 2011. Production and marketing of Gerbera cut-flowers. *International Research Journal of Agricultural Economics and Statistics*. 2(2): 328-331.

Naagarajan, R and Jayavasuki, K. 2016. An economic analysis of floriculture in India. *International Journal of Applied Soil Science*. 3(3): 82-96.

Ozkan, B., Celikyurt, M.A., Karaguzel, O and Akkaya, F. 1997. Production Structure and Main Marketing Problems of Export Oriented Cut Flower Industry in Turkey. *Acta Horticulture* 491: 481-487.

Sahu, A., Chatterjee, S and Paul, A.K. 2011. Growth of floriculture and its role in promoting socio-economic status of floriculturists of Panskura and Kolaghat Blocks, Purba Medinipur. *Indian Journal of Geography and Environment*. 12: 4-11.

Sharma, M., Thakur, R and Mehta, P. 2014. Economic feasibility analysis of major flower in Himachal Pradesh state of India. *International Journal of Advanced research in Management and Social Sciences*. 3(9): 24-40.

Sudhagar, S. 2013. Production and marketing of cut flower (rose and gerbera) in Hosur Taluk. *International Journal of Business and Management Invention*. 2(5): 15- 25.