

Role of Floriculture Sector in Livelihood Security of Small Scale Family Farming in Intermediate Region of Jammu

Rakesh Sharma^{1*}, Sanjay Khar¹, Puneet Choudhary¹, Vikas Tandon², Prem Kumar¹ and Anil Bhat³

¹Krishi Vigyan Kendras, Jammu, India

²Krishi Vigyan Kendras, Rajouri, India

³Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu, India

*Corresponding author: sharmar1975@gmail.com

ABSTRACT

The study was conducted in Rajouri district of Jammu and Kashmir state (J&K) with 30 marigold growers to examine the production practices being practised. Ten flower growing farmers were selected randomly each from three blocks of district for collection of primary data by personal interview schedule method. The results revealed that majority of the farmers were young having age less than 45 years and are matriculate. The main occupation of majority (73.33%) of the respondents was flower farming with crop production and animal husbandry enterprises. Flower farming as a sole source of occupation was practised by none of the farmer. The average quantity of urea, DAP and MOP applied by the flower farmers was 0.84, 0.38 and 0.24 q/ha, respectively that was far less than recommendations. Very less number of farmers know about the diseases in marigold crop whereas only 13.3% farmers have knowledge of sucking pests and 10 percent each know about leaf eaters and stem borer insects. This study recommends that for encouraging results to improve farmer's socioeconomic condition, increase self-employment opportunity and to promote entrepreneurship as potential tool for poverty alleviation, more number of extension training programmes and exposure visits of the floriculturists should be organised on regular intervals.

Keywords: Flower farming, farmers, insects, inputs

The floral industry is one of the fast growing industries and being considered as a viable option of diversification in agriculture. It has gained popularity amongst farmers due to its easy culture, short duration to produce the marketable product. The input-output of floriculture crops is higher than the field crops namely paddy, maize and potatoes. Cultivation of flower is reported to give 3-5 times and 1.5-2 times more returns than obtained from rice and vegetable cultivation, respectively (Dadlani,

2003). In India, 253.65 thousand hectares of area under floriculture crops producing 1.652 million tonnes of loose flowers and 750.66 million cut flower stems (NHB, 2012). Moreover, ₹ 423.43 crores was earned from export of floriculture. More than 5,000 resilient farmers are growing flower and foliage in the country and about 150,000 people are directly or indirectly involved in floriculture business as their sole livelihood (Chowdhury, 2010). The floriculture sector has now assumed commercial dimensions in

the state of Jammu and Kashmir (J&K). In Jammu province, floriculture is being practiced over an area of about 100 ha (NHB 2012). Jammu province is endowed with diverse agro-climatic conditions namely sub-tropical, intermediate and temperate which is suitable for round the year cultivation of different floriculture crops. In the district Rajouri of Jammu province having only 8 percent of area under irrigation from different sources, some of the farmers are practicing floriculture enterprise (only marigold) as a source of livelihood. Although, the area under floriculture crops is very less and number of farmers who are practicing this profession are few, still an attempt was taken to find out the contribution of floriculture sector in farmers total income.

PROFILE OF THE STUDY AREA

The Rajouri district is located in the south western side of the J&K state having maize-wheat, mash-wheat, maize-mustard, and fodder-wheat as the major cropping sequences. The total population of the district is 6.42 lakhs and about 94.3% of the population of this hilly district resides in rural areas. Majority of agriculture land in the district are situated across the slopes of the hills. The district comprises of seven tehsils, nine blocks, 296 panchayats and 387 villages. The total numbers of holdings of the district are 77966, out of which 41103 are marginal, 16228 small, 8412 semi medium, 1939 medium and 103 large. The average landholding size of the district is 1.02 ha. The district is having all three agro-climatic conditions namely sub-tropical, intermediate and temperate. Sub-tropical zone constituted of Sunderbani, Nowshera and Kalakote blocks, Intermediate zone constituted of Rajouri, Dungi and Manjakote blocks and temperate zone comprises of Thanamandi, Darhal and Budhal blocks (DES 2011).

Locale of the study: The study was conducted in the Rajouri, Dungi and Manjakote blocks of district Rajouri of Jammu division having intermediate climatic conditions. These blocks were selected purposively for the study as maximum number of farmers of these blocks practicing marigold 2013-14

Sampling plan: Multistage sampling technique was employed for selecting the final sample. In the stage I, blocks were selected. In stage II, 10 farmers each block were selected randomly that were practicing floriculture enterprise from the list procured from

department of floriculture, Rajouri. This was done to ensure that equal number of farmers are administered the interview schedule for data collection. Thus, the total sample size for present study was 30.

Data collection: Data were collected by personally interviewing the sampled farmers in October, 2013.

RESULTS AND DISCUSSION

Socio-economic profile of wheat growers: The mean age of the sampled farmers was about 50 years. and the average education was 9.9 years. The average farming experience was 3.03 in floriculture enterprise ranged between 1 and 5 years with the average family labour between 3.47 per family. The average land holding of the respondent farmers was 1.54 ha (Table 1). The average irrigated land holding was 0.61 ha, and unirrigated was 0.93 ha (Table 1). In these two groups, the average owned land holding is comparatively same to the average land holding size of the Jammu region. Considering the age of growers, Up to primary, secondary, higher secondary and above higher secondary education level the percentages are 10.00, 36.67, 26.67 and 26.67 respectively. Thus, majority of flower growers were relatively younger and come from the age group between 30-40 years, indicating that the young farmers were early adopter to encourage the flower farming system.

Table 1: Descriptive statistics of the sampled farmers

Parameters	Mean \pm S.D
Mean Age (In Years)	41.28 \pm 9.50
Mean Education (Formal schooling years completed)	9.90 \pm 2.74
Operational land holding (ha)	1.54 \pm 0.88
Irrigated	0.61 \pm 0.39
Unirrigated	0.93 \pm 0.67
Area under Floriculture	0.19 \pm 0.14
Floriculture Farming experience (years)	3.03 \pm 1.84
Family Labour	3.47 \pm 1.67

Occupational Status of Flower Farmers

Majority (73.33%) of respondents were engaged in flower farming with crop production and animal husbandry enterprises. About one fourth of the respondents were practicing flower farming in

addition to crop husbandry. Flower farming, crop husbandry and have another source of income such as shop, private job, labour job etc is being practised by 10 percent of the farmers. Only flower farming as a sole source of occupation was not practised by any of the farmer that reflects that flower farming was contributing only a portion of the total income (Table 2).

Table 2: Occupational Distribution of Flower Farmer

Items	Frequency	Percentage
Only Flower farming	00	00.00
Flower farming + crop farming + animal husbandry	22	73.33
Flower farming + crop farming	08	26.77
Flower farming + crop farming + business	03	10.00
Flower farming +crop farming +service	01	3.33

Input Use Pattern in Flower Farming

The average quantity of urea applied by the farmers was 0.84 q/ha, reflects that in the district farmers on an average applied less than recommended dosage of urea (150 q/ha). Most of the farmers had applied urea as first top dressing. In case of DAP, on an average 0.38 q/ha was applied, thus, it can be inferred that the farmers had applied almost one fifth of the recommended dose of DAP, which is 2 q/ha. The use of muriate of potash is very low, as only 30% of the farmers had applied this fertilizer.

Table 3: Input use patterns of flower farmers

Input	Maximum	Minimum	Mean
Urea (n=28)	1.60	0.20	0.84 ±0.44
DAP (n=20)	0.80	0.00	0.38 ±0.23
MOP (n=9)	0.40	0.00	0.24 ± 0.17
FYM (n=21)	15.00	23.00	20.00 ± 2.75
Yield (n=30)	1.00	0.60	0.73 ± 0.09
Hoeing (n=30)	1.00	1.00	1.00 ± 0.00

The mean quantity applied was 0.24 q/ha, which is far less than the recommendation i.e. 1.5q/ha. The extent of adoption with respective percentage of farmers was low in case of MOP but the level of adoption with recommended doses was significantly

low in all fertilizers. The application of FYM on an average was 20 q/ha which is much less than recommended dosage of 300q/ha (Table 3). From the results, it is revealed that the farmers are not aware regarding optimum dosages of chemical fertilizers and FYM and applying less than the recommended dosages of inputs.

Insect pest and diseases reported by flower growers

Pesticides constitute the key control tactics for management of insect pests and diseases and the productivity of crops depends on their effective control (Birthal *et al.*, 2000). To control the flower crop from the pest attack, farmers applied insecticides endosulphan and sevin. The major source of information was department of floriculture and pesticide retailers. The farmers applied seed treating chemical bavistin to minimise the disease problems in marigold crop and the major source of information were: Krishi Vigyan Kendra, pesticide dealers, fellow farmers and department of floriculture from whom they procure information regarding their treatment (Table 4).

Table 4: Insect pests and diseases reported by flower growers

Problem	Frequency	Percentage	Source of information
<i>Insect</i>			
Sucking Pests	4	13.3	Deptt. of floriculture (DOF), Pesticide retailer
Leaf eaters	3	10.0	DOF, Pesticide retailer
Stem Borer	3	10.0	DOF + Krishi Vigyan Kendra (KVK)
<i>Diseases</i>			
Brown Spot	3	10.0	KVK, Pesticide retailer
Witling	6	20.0	KVK and Deptt. of floriculture
Curling of Leaves	5	16.7	Fellow farmers, DOF
Damping off of seedlings	7	23.3	Pesticide retailer, DOF, KVK

Multiple response

Large percentage (43.3%) of the farmers reported that damping of the seedlings in nursery and wilting are the major diseases in marigold crop whereas sucking pests (13.3%) and leaf eaters and stem borer 10 percent each were reported as major insects that causes yield losses in marigold crop (Table 4). Thus it is concluded that large percentage of farmers either not aware of the insect pest problems or unable to recognise them as economic threat.

From the results, it is concluded that farmers who are practising floriculture farming were young and educated, but, they lack proper floriculture husbandry knowledge. Thus, the department of floriculture and KVKs should inculcate technical skills to make them competent to practice floriculture enterprise on commercial basis by making best use of available information. By adopting the recommended scientific practices, farmers can adopt

floriculture enterprise as an economic activity for livelihood security.

REFERENCES

- Birthal, P.S., Sharma, O.P. and Kumar, S. 2000. Economics of integrated pest management: Evidences and Issues. *Indian Journal of Agricultural Economics*. **55**: 644-659.
- Chowdhury, S.Z. 2010. Produce more fruits and vegetables instead of rice. *The Daily Independent*, February 11, 2010, Dhaka.
- Dadlani, N.K. 2003. Global Positioning of Bangladesh Floriculture. A paper presented in International Floriculture Conference on 6th November 2003, BARC, Farmgate, Dhaka.
- DES (Directorate of Economics and Statistics). 2011. *Digest of Statistics, 2010-11*, Government of Jammu & Kashmir.
- NHB 2012. National Horticulture Board Database 2012, Ministry of Agriculture and farmers welfare Government of India. <http://www.nhb.gov.in>