



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2018; 7(4): 3453-3456
Received: 15-05-2018
Accepted: 20-06-2018

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Adoption level of packages and practices and its relation with personal and socio-economic characteristics of registered flower growers of Kashmir valley

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Abstract

The study was conducted in three districts of the Kashmir valley namely district Srinagar, district Budgam and district Ganderbal. Out of 300 registered flower growers, 100 registered flower growers were selected randomly by using random number table. The study revealed that the Adoption of the registered flowers increased with the increase in their educational qualification and their experience in flower growing and as such around 55 per cent of the registered flower growers had complete adoption regarding various cultivation practices including method of propagation, planting method, application of manures and fertilizers and use of fungicides and insecticides.

Keywords: registered flower growers, randomly, adoption, experience and cultivation practices

Introduction

India is bestowed with agro-climate & ecological conditions, which are favourable to grow all types of commercially important flowers generally found in different parts of the world. India is in an enviable position to become a leader in the world floriculture trade because of prevailing congenial location, diverse agro-climatic conditions and specific incentives given by the government and the department of floriculture in the country. The total area under flower crops in the country during 2014 was 255.02 thousand hectare with an annual production of 1754.49 MT loose flowers and 542.53Mt cut flowers. Bulbous crops, fresh and dried cut flowers dominate the floriculture exports from India. Rose, Marigold, Tuberose, Orchids and Chrysanthemum, Gladiolous, Carnation, Orchids, Anthurium, Lily, Gerbera etc. are the main flowers exported from India. During the year 2014 the country had exported 3,09,26,023 MT of floriculture products to the world. The major importing countries of floriculture products are U.S.A, Germany, Netherland, U.K, Japan, Canada, & U.A.E were the major importing countries of floriculture during the same period (Anonymous, 2015a) [1].

The state of Jammu and Kashmir is endowed with ample natural resources including soil, water, topographic diversity, climatic conditions and rich natural flora which facilitate the cultivation of wide range of flowers. The total area occupied under floriculture in the state is 494 hectare. The floriculture sector generates an annual turnover of Rs 5.02 crores in the state. (Diversification through floriculture 2016) Srinagar, Budgam and Jammu are the main districts of Jammu and Kashmir having maximum area and production of lose and cut flowers. The total number of registered flower growers in state are 725. Under greenhouse conditions the area under cut and flower in the state is 40 hectare. Srinagar, Jammu, Budgam, Ganderbal are the main district of Jammu and Kashmir having maximum area and production of loose and cut flowers. The total number of registered flower growers in Jammu and Kashmir is 725. In addition to this the area of cut and loose flowers in Jammu and Kashmir under greenhouse condition is 40 hectare (Anonymous, 2015b) [2].

Adoption of improved varieties by carnation growers

From table 1, a meagre population 33 per cent of registered carnation growers had completely adopted the White Dona variety and an equal percentage 33 per cent of the registered carnation growers had adopted Pink Dona variety while as a 31 per cent of the registered carnation growers had adopted Mona Lisa followed by a very negligible percentage 3 per cent of the registered carnation growers who had adopted Red Arrow as an improved variety. The findings of the study are in accordance with the findings of Raghavendra (1999) [6].

Table 1: Adoption of improved varieties by Carnation growers (N=100)

Name of the variety	Frequency*	Percentage
Mona Lisa	31	31
White Dona	33	33
Pink Dona	33	33
Red Arrow	03	03

*Multiple responses of respondents.

Adoption of planting material by carnation growers

From table 2, a vast majority 80 per cent of the registered carnation growers had adopted the private agencies as their source of planting material while as only 14 per cent of the registered carnation growers had obtained the planting material from Floriculture department. However, a little percentage 4 per cent of the registered carnation growers had obtained the planting material from SKUAST-K and only 2 per cent of the registered flower growers had obtained the planting material from their fellow farmers.

Table 2: Adoption of planting material by Carnation growers (N=100)

Source of planting material	Frequency*	Percentage
SKUAST-K	4	4
Department of Floriculture	14	14
Private agencies	80	80
Fellow farmer	2	2

*Multiple responses of respondents.

Adoption of sowing methods by Carnation growers

From table 3, a majority 60 per cent of the registered carnation growers had adopted the raised seed bed method for cultivation of carnation while as 40 per cent of the registered flower growers had adopted the flat bed method for the cultivation of Carnation.

Table 3: Adoption of sowing methods by carnation growers (N=100)

Method of sowing	Frequency *	Percentage
Raised seed bed	60	60
Flat-bed method	40	40
Direct sowing	0	0

*Multiple responses of respondents.

Adoption of irrigation methods by Carnation growers

From table 4, a majority 55 of the registered carnation growers had adopted the drip irrigation method for irrigating the carnation while as sprinkler method of irrigation was adopted by 40 per cent of the registered carnation growers and only a small percentage 5 of the registered carnation growers had adopted the Can Spray method for irrigating the carnation round the year.

Table 4: Adoption of irrigation methods by the carnation growers (N=100)

Method of irrigation	Frequency*	Percentage
Drip	55	55
Sprinkler	40	40
Flooding	0	0
Can spray	05	05

*Multiple responses of respondents.

Adoption of improved varieties by gladiolus growers

Perusal of data presented in the table 5 revealed that four varieties of carnation were cultivated by the carnation

growers. Majority of the carnation growers 60 per cent were cultivating white prosperity, whereas 20 per cent 12 per cent and 8 per cent of carnation growers had adopted her majesty, Priscilla and trade horn respectively.

Table 5: Adoption of improved varieties by the gladiolus growers (N=100)

Name of variety	Frequency*	Percentage
White prosperity	60	60
Her majesty	20	20
Priscilla	12	12
Trade horn	08	08

*Multiple responses of respondents.

Adoption of planting material by gladiolus growers

Data in the table 6 revealed that majority of gladiolus growers 80 per cent had purchased planting material from private agencies, while as on 12 per cent had purchased at from the department of floriculture parks and gardens only 5 per cent of the respondents had obtained the planting material from SKUAST-K, whereas 3 per cent of the growers had obtained at from fellow farmers.

Table 6: Adoption of planting material by the gladiolus growers (N=100)

Source of planting material	Frequency*	Percentage
SKUAST-K	05	05
Department of Floriculture	12	12
Private agencies	80	80
Fellow farmers	03	03

*Multiple responses of respondents.

Adoption of sowing methods by gladiolus growers

From table 7 it was observed that a majority 57 per cent of the registered gladiolus growers had adopted the flat bed method for cultivation of gladiolus while as 38 per cent of the registered gladiolus growers had adopted the raised seed bed method while as only 5 per cent of the registered gladiolus growers had adopted the direct sowing method for the cultivation of gladiolus.

Table 7: Adoption of sowing methods by gladiolus growers (N=100)

Method of sowing	Frequency*	Percentage
Raised seed bed	38	38
Flatbed method	57	57
Direct sowing	05	05

*Multiple responses of respondents

Adoption of irrigation methods by gladiolus growers

From table 8 it was observed that a majority 42 of the registered gladiolus growers had adopted the drip irrigation method followed by 30 per cent of the registered gladiolus growers had adopted flooding as the method of irrigation for irrigating the gladiolus while as Sprinkler method of irrigation was adopted by 20 per cent of the registered gladiolus growers and only a small 8 per cent of the registered gladiolus growers had adopted the Can Spray method for irrigating the gladiolus round the year.

Table 8: Adoption of irrigation methods by the gladiolus growers (N=100)

Method of irrigation	Frequency*	Percentage
Drip	42	42
Sprinkler	20	20
Flooding	30	30
Can spray	08	08

*Multiple responses of respondents.

Adoption of improved varieties by gerbera growers

From table 9 it was observed that 34 per cent of registered gerbera growers had completely adopted Elite variety and 33 per cent of the registered gerbera growers had adopted Elegance variety while as 31 per cent of the registered gerbera growers had adopted Congo followed by a very negligible 2 per cent of the registered gerbera growers had adopted Cash as an improved variety.

Table 9: Adoption of improved varieties by the gerbera growers (N=100)

Name of variety	Frequency*	Percentage
Congo	31	31
Elegance	33	33
Elite	34	34
Cash	02	02

*Multiple responses of respondents.

Adoption of planting material by gerbera growers

From table 10 it was observed that a vast majority 85 per cent of the registered gerbera growers had adopted the private agencies as their source of planting material while as only 13 per cent of the registered gerbera growers had obtained the planting material from Floriculture department. However, a little 2 per cent of the registered gladiolus growers had obtained the planting material from SKUAST-K.

Table 10: Adoption of planting material by gerbera growers (N=100)

Source of planting material	Frequency*	Percentage
SKUAST-K	02	02
Department of floriculture	13	13
Private agencies	85	85
Fellow farmers	0	0

*Multiple responses of respondents.

Adoption of sowing methods by gerbera growers

From table 11 it was observed that a majority 65 per cent of the registered gerbera growers had adopted the raised seed bed method for cultivation of gerbera while as 35 per cent of the registered gerbera growers had adopted the flat bed method for the cultivation of gerbera

Table 11: Adoption of sowing methods by gerbera growers (N=100)

Method of sowing	Frequency*	Percentage
Raised seed bed	65	65
Flatbed method	35	35
Direct sowing	0	0

*Multiple responses of respondents.

Adoption of irrigation methods by gerbera growers

From table 12, it was observed that a majority 60 per cent of the registered gerbera growers had adopted the drip irrigation method followed by 25 per cent of the registered gerbera growers had adopted sprinkler as the method of irrigation for irrigating the gerbera while as flooding method of irrigation was adopted by 15 per cent of the registered gerbera growers.

Table 12: Adoption of irrigation methods by gerbera growers (N=100)

Method of irrigation	Frequency*	Percentage
Drip	60	60
Sprinkler	25	25
Flooding	15	15
Can spray	0	0

*Multiple responses of respondents.

Adoption of improved varieties by Lilium growers

From table 13 it was observed that 51 per cent of registered Lilium growers had completely adopted Elite variety and 22 per cent of the registered Lilium growers had adopted Dreamland variety while as 15 per cent of the registered Lilium growers had adopted White Mountain followed by 12 per cent of the registered Lilium growers had adopted Cascade as an improved variety.

Table 13: Adoption of improved varieties by the Lilium growers (N=100)

Name of variety	Frequency*	Percentage
Elite	51	51
Dream land	22	22
Cascade	12	12
White mountain	15	15

*Multiple responses of respondents.

Adoption of planting material by Lilium growers

From table 14 it was observed that a vast majority 87 per cent of the registered Lilium growers had adopted the private agencies as their source of planting material while as only 9 per cent of the registered gerbera growers had obtained the planting material from Floriculture department. However, a little 4 per cent of the registered Lilium growers had obtained the planting material from SKUAST-K.

Table 14: Adoption of planting material by the Lilium growers (N=100)

Source of planting material	Frequency*	Percentage
SKUAST-K	4	4
Department of Floriculture.	9	9
Private agencies	87	87
Fellow farmers	0	0

*Multiple responses of respondents.

Adoption of sowing methods by Lilium growers

From table 15 it was observed that a majority 89 per cent of the registered Lilium growers had adopted the raised seed bed method for cultivation of Lilium while as 11 per cent of the registered Lilium growers had adopted the flat bed method for the cultivation of Lilium.

Table 15: Adoption of sowing methods by the Lilium growers (N=100)

Method of sowing	Frequency*	Percentage
Raised seed bed	89	89
Flatbed method	11	11
Direct sowing	0	0

*Multiple responses of respondents.

Adoption of irrigation methods by Lilium growers

From table 16 it was observed that a majority 45 per cent of the registered Lilium growers had adopted the flooding irrigation method followed by 31 per cent of the registered Lilium growers had adopted sprinkler as the method of irrigation for irrigating the Lilium while as 24 per cent of registered Lilium growers had adopted the drip as a method of irrigation.

Table 16: Adoption of irrigation method by Lilium growers (N=100)

Method of irrigation	Frequency*	Percentage
Drip	24	24
Sprinkler	31	31
Flooding	45	45
Can spray	0	0

*Multiple responses of respondents.

A cursory look at Table 17 clearly indicated that relationship of Adoption level with the socioeconomic characteristics i.e. education, experience in flower growing, Land holding, Income, Extension contacts, Risk orientation were significantly associated. Obviously, education, land holding, experience in flower growing and extension contacts have helped the registered flower growers to acquire knowledge for better adoption and exposed to new technologies and their urge to know the new things in floriculture which have significantly contributed in adoption. Other variables namely Age, Family type and Innovative proneness were not significantly related to the adoption level of respondents.

Table 17: Correlation coefficient between socioeconomic characteristics and Adoption

S. No	Socioeconomic characteristics	P-value
1	Age	0.255
2	Education	0.607*
3	Experience	0.888*
4	Land Holding	0.684*
5	Income	0.829*
6	Extension Contacts	0.525*
7	Innovative Proneness	0.340
8	Risk Orientation	0.665*
9	Family Type	0.059

* Positively significant towards Adoption.

Conclusion

White Dona and Pink Dona variety of carnation were adopted by 33 per cent of respondent, while as Mona Lisa was adopted by 31 per cent of respondents. White prosperity variety of Gladiolus was adopted by majority of respondent 60 per cent, whereas, Her Majesty was adopted by 20 per cent of respondents. Elite variety of Gerbera was adopted by 34 per cent, whereas Elegance and Congo was adopted by 33 per cent and 31 per cent of respondents respectively. More than half of the respondents had adopted Elite variety of Lilium. More than 80 per cent of registered flower growers of Gerbera, Carnation, Gladiolus and Lilium have procured planting material from private agencies, while as 9-14 per cent of registered flower growers have procured planting material from the department of floriculture, less than 5 per cent of registered flower growers have procured planting material from SKUAST-K. Raised bed method for cultivation of flowers was used by 89 per cent of Lilium growers, 65 per cent of Gerbera growers, 60 per cent of carnation growers and 57 per cent of Gladiolus growers, whereas Flatbed method of cultivation was used by 40 per cent of carnation growers, 38 per cent of Gladiolus growers, 35 per cent of Gerbera growers and only 11 per cent of Lilium growers. Drip irrigation was adopted by 55 per cent of carnation growers, 60 per cent of Gerbera growers, 45 per cent of Lilium growers and 42 per cent of Gladiolus growers, while as sprinkler method of irrigation was followed by 40 per cent of carnation, 25 per cent of Gerbera and 31 per cent of Lilium growers and only 20 per cent of gladiolus growers.

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