Level of Knowledge and Extent of Adoption of Farmers on Recommended Tuberose Production Practices

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ABSTRACT

The study was conducted in Nadia district of West Bengal with 80 tuberose growers to measure the level of knowledge and extent of adoption of the recommended tuberose production practices among the farmers. Most of the respondents were found to belong to medium level of knowledge and adoption category. Knowledge level and extent of adoption had shown some significant correlations with extension agency contact and mass media exposure, From the study it was clear that extension agencies have to be more active to enhance the knowledge level and extent of adoption of the flower growers.

Keywords: Level of knowledge, Extent of adoption, Recommended production practices, Risk orientation, Economic-motivation
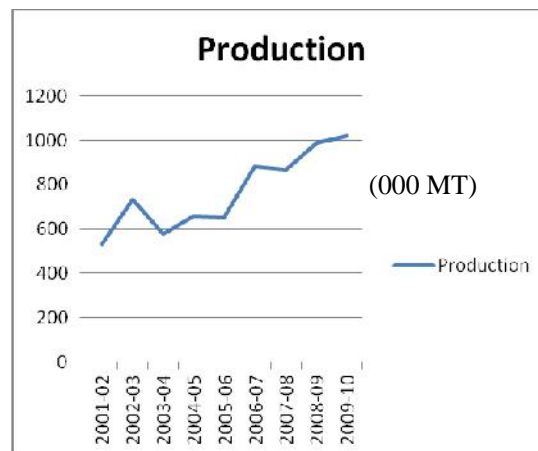
INTRODUCTION

The advancement of scientific techniques in flower cultivation has given an impetus to the growth of flower industry in various parts of the world, including India. In India the area under production of flowers is around 183,000 hectares (Indian Horticulture database, 2010) which is showing an increasing trend over the year (Figure 1). Tamil Nadu, Andhra Pradesh, Karnataka,

Fig. 1: Area under flower cultivation in India (Indian Horticulture Database, 2010)

(000 HA)
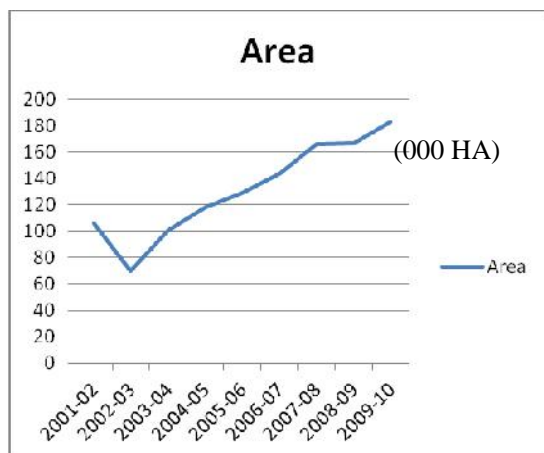
Maharashtra and West Bengal are the leading states of the flower industries in India. A cursory look on the production of flowers in India also shows an increasing trend (Fig. 2).West Bengal stands first in cut flower production (33.3% of the total production) all over India. As a country of rituals and adore the demand of flowers in India is very high. With the increasing urbanization people are developing taste for beauty and aesthetics. Not only in national market, Indian floriculture industry has a

Fig. 2: Production of flower in India (Indian Horticulture Database, 2010)

(000 MT)

tremendous scope for exporting flowers to the foreign countries. The present study was taken up to assess the level of knowledge and extent of adoption of farmers on recommended flower production technologies. Tuberose was selected for the study.

METHODOLOGY

The Nadia district of West Bengal was selected purposively to conduct the study as tuberose is grown here commercially and extensively. Two blocks namely Ranaghat- I and Ranaghat- II of this district were selected purposively where tuberose is cultivated and two villages from each block were selected randomly by using the random number table. Twenty flower growers from each of the four villages (Total 80) were selected as respondents by using simple random sampling technique. The modified index of Pradhan (2005) was used to

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measure the level of knowledge and extent of adoption of recommended flower production practices. The index consisted of 12 packages of practices of recommended flower production. A semi structured interview schedule was used to collect the data. Frequency, percentage,

Table 1: Frequency distribution of level of knowledge of tuberose production technology

n= 80

Practices	Frequency	Percentage
1. Improved varieties	35	43.75
2. Method of sowing/planting	54	67.50
3. Plant to plant distance	50	62.50
4. Sowing time	62	77.50
5. Seed rate / plants	40	50.00
6. Seed treatment	38	47.50
7. Fertilizers	46	57.50
8. Irrigation	41	51.25
9. Weeding and interculture	43	53.75
10. Plant protection	34	42.50
11. Plucking	55	68.75
12. Storage	34	42.50

correlation and regression were used for analysis of the data.

RESULTS AND DISCUSSION

Practice wise knowledge level of the respondents regarding tuberose production technologies

An attempt was made to understand the knowledge gaps on various aspects of improved tuberose production practices by computing the number of farmers who possessed adequate knowledge on each of the twelve packages of practices on tuberose. The results of such an analysis are given in Table 1.

The result revealed that the respondents had a moderate level of knowledge regarding recommended tuberose production technology.

The total knowledge score on improved tuberose cultivation for each farmer was computed by adding up the scores of all the correct answers. These knowledge scores were further analyzed.

The data reveled that the mean of the respondents' knowledge regarding the production technology of tuberose was 7.73 with a standard deviation 1.99. The range of the level of knowledge was 3 to 12. So the range varied a lot. The result showed that majority (70.00%) of the respondents belonged to medium knowledge level

category. 20 per cent belonged to high knowledge level and 10 per cent of the respondents belonged to low knowledge level category.

Extent of adoption of the respondents regarding scientific tuberose production practices

An attempt was made to understand the adoption gaps on various aspects of improved tuberose production practices by computing the number of farmers who adopted each of the twelve practices on tuberose cultivation either in full or partially or not at all. The results of such an analysis are given in Table 2.

Table 2: Frequency distribution of extent of adoption of tuberose production technology

n=80

Practices	Full adoption Frequency (%)	Partial adoption Frequency (%)	No adoption Frequency (%)
Improved varieties	0 (0)	80 (100)	0 (0)
Method of sowing/planting	5 (6.25)	75 (93.75)	0 (0)
Plant to plant distance	2 (2.5)	78 (97.50)	0 (0)
Sowing time	73 (91.25)	7 (8.75)	0 (0)
Seed rate / plants	72 (90.00)	8 (10.00)	0 (0)
Seed treatment	4 (5.00)	55 (68.75)	21 (26.25)
Fertilizers	3 (3.75)	77 (96.25)	0 (0)
Irrigation	69 (86.25)	11 (13.75)	0 (0)
Weeding and interculture	71 (88.75)	9 (11.25)	0 (0)
Plant protection Plant protection	3 (3.75)	77 (96.25)	0 (0)
Plucking	80 (100)	0 (0)	0 (0)
Storage	9 (11.25)	71 (88.75)	0 (0)

The respondents were found to adopt a few practices in full: sowing time, seed rate, irrigation, inter-culture and plucking. Most of the farmers were found to adopt such practices as improved varieties, method of sowing, plant-to-plant distance, seed treatment, fertilizers, plant protection and storage partially. One significant feature was that about 21 per cent of tuberose growers were not at all adopting any seed treatment techniques. Thus, it can be seen that majority of farmers were adopting most of the

improved tuberose production practices either fully or partially.

The total adoption score on improved tuberose cultivation for each farmer was computed by adding up the scores of all twelve items. These adoption scores were further analyzed. It was found that the mean adoption score on improved practices of tuberose was 11.95 with a standard deviation of 3.14. The adoption scores ranged from as low as 7 to as high as 20, thus indicating a wide variation among the extent of adoption of tuberose cultivation among the respondent farmers i. e. low (15.00%), medium (68.75%) and high (16.25%) extent of adoption.

Correlations were studied about level of knowledge and extent of adoption of recommended tuberose production practices with independent variables and the results are presented inTable 3.

Table 3: Correlations of level of knowledge and extent of adoption with independent variables

Variables	Knowledge level	Extent of adoption
Age	.029	-.333**
Education	.156	.363**
Experience in flower cultivation	.285*	-.211
Land holding	.093	.574**
Annual family income	.071	.509**
Extension agency contact	.511**	.385**
Mass media exposure	.183	.202
Risk orientation	.079	.727**
Economic motivation	.025	.603**

* Significant at 1% level of significance
** Significant at 5% level of significance

Some significant relations had been found in correlations study. Positive correlation between knowledge level and experience in flower cultivation indicated that farmers with long experience had acquired more practical knowledge about tuberose cultivation. The respondents who maintained close contact with extension agencies had more knowledge about recommended packages of practices. Education, land holding, annual family income, extension agency contact, risk orientation, economic motivation were found positively correlated with extent of adoption. The extent of adoption was found negatively correlated with the age of the respondents.

Regression analysis was done between extent of adoption of tuberose production technologies and independent variables. Level of knowledge of tuberose production technologies was considered here as one of the independent variable. The results are presented in Table 4.

Table 4: Regression analysis of extent of adoption of tuberose production technology and independent variables

S. No.	variables	Beta	t
1	Age	-0.075	-0.601
2	Education	0.078	0.530
3	Experience in flower cultivation	-0.011	-0.103*
4	Land holding	0.129	0.906
5	Annual family income	-0.182	-1.279
6	Extension agency contact	0.018	0.148*
7	Mass media exposure	0.018	0.178*
8	Risk orientation	0.482	3.102
9	Economic motivation	0.365	3.173
10	Level of knowledge in tuberose production technology	0.049	0.449**

* Significant at 1% level of significance   R square- 0.625
** Significant at 5% level of significance   F value- 11.486

The R square value was found to be 0.625. That means the extent of adoption of tuberose production technologies was 62 per cent expressed by the independent variables taken under consideration. Remaining 38 percent was represented by other several factors which were not taken under consideration in the particular study.

CONCLUSION

Target oriented training programmes have to be formulated to enhance the level of knowledge and extent of adoption of recommended tuberose production practices. Extension agencies have to address the needed interventions for capacity building of tuberose growers to promote scientific oriented commercial floriculture.

REFERENCE

Indian Horticulture Database, NHB, 2010.

Pradhan, N. S. 2005. Study on technological gap and constraints in adoption of flower crops in Delhi. Ph. D. Thesis (Unpublished), C.C.S.U., Meerut, UP.

Singh, T. R. 1975. Analysis of rationality in decision making in relation to the adoption of innovations of varying nature, Ph.D. thesis (Unpublished), IARI, New Delhi.