Adoption of Improved Marigold Production Practices in Chaka Block of Prayagraj District in Uttar Pradesh

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Abstract: This study was carried out in Prayagraj district of Uttar Pradesh in one selected block. The study aims to assess the adoption level of marigold growers about recommended marigold cultivation technology. One hundred twenty respondents were selected randomly who were practicing marigold cultivation were interviewed to collect the primary data. The collected data were analyzed with the help of suitable statistical techniques to draw appropriate conclusions. The study reveals that the majority of the respondents were having medium overall level of adoption regarding recommended marigold production technology. Educational status and income were found positive correlation with the adoption of the improved marigold production practices.
Keywords: Marigold production practices, adoption

1. Introduction

India is a long tradition of floriculture. Flowers have been depicted in ancient paintings. However, the social and economic aspects of flowers growing were recognized only later. It is only in the last three decades with changing life styles and under increased urban affluence. Floriculture has assumed a definite commercial status. Its potential as a viable agribusiness has also been recognized. Floriculture was practiced only on small farms but now a few large ones have also followed. The area under flower cultivation in India is estimated to be 34,000 hectares, the major states being Karnataka Tamilnadu, West Bengal, Andhra Pradesh and Maharastra. Tamilnadu ranks first with 8,383 hectares. The floriculture continues to generate employment opportunities to people in rural area. An area under flower cultivation can support a family consisting of 5 to 6 members. It much valued flowers like rose, carnation, gladioli, marigold and orchids are grown. Marigold is one of the important and profitable flowers for the farmers. It is also important to take attention regarding farming practices including floriculture change continually. Farmers build on their own experience and that of their locality to refine the way they manage their crops. Changes in natural conditions, resource availability, and market development also present challenges and opportunities to which farmers respond. In addition, farmers learn about new technologies from various organizations, programs, and projects dedicated to research, extension, or rural development. Hence, to know the "Adoption of improved marigold cultivation practices in Chaka block of Prayagraj District in Uttar Pradesh" was undertaken to determine the level of adoption of improved practices of marigold cultivation by the respondents.

2. Methodology

The study was conducted in purposively selected district of Prayagraj, Uttar Pradesh. One block namely Chaka was selected for the selection of respondents. 6 village panchayat were selected from the block. From each village, 20 farmers of Marigold were selected proportionately from each village, making the total sample size of 120 farmers.

3. Extent of adoption of improved production practices of Marigold

The following analysis will show that these are a good deal of variation also in the adoption of different practices while practices are adopted fully, partially and not adopted as per recommendation.

Table 1. Extent of adoption of improved production practices of Marigold.

S.N.	Practices	Recommendation	Extent of adoption by respondents		
			Fully adopted	Partially adopted	Not adopted
1	Variety	African Marigold	13 (10.83)	67 55.83)	40 (33.34)
		Pusa Narangi	52 (43.34)	09 (7.50)	59 (49.16)
		Pusa Basanti	88 (73.34)	22 18.34)	10 (8.34)
		Rusty Red	06 (5.00)	10 (8.34)	104 (86.67)
2	Soil type	Loam soil	54 (45.00)	0	0
		Sandy loam soil	66 (55.00)	0	0
3	Soil preparation	Deep plough. 2-3 times	61(50.8)	59 (49.2)	0
4	Nursery Sowing time	May 15 - 15 June	98(81.67)	22(18.33)	0
5	Spacing between rows	For early variety 45-50cm.	76 (63.3)	44 36.7)	0
		For late variety 50-60cm	61 (50.8)	59 (49.2)	0
6	Spacing between plant to plant	For early variety 15-20cm.	97 (80.8)	23(19.2)	0
		For late variety 20-25cm	97 (80.8)	23(19.2)	0
7	Seed rate	1-1.2 Kg for Early Varieties 1-1.5 Kg for Late Varieties	61(50.8)	59 (49.2)	0
8	Fertilizer application	NPK (120-150 kg:50 kg:60 kg)	0	120 (100)	0
		UREA 240 kg	0	120 (100)	0
		Borex 500 g/ha	0	120 (100)	0
		Diammoniumposphate 400kg/ha	0	0	120 (100)
9	Manure application	20-25 tons of cow dung	0	120 (100)	0
10	Soil PH	7.5	22 (18.3)	98 (81.7)	0
11	Soil testing	Yes or No	54 (45.00)	38 31.66)	28 (23.34)
12	Irrigation time	Light irrigation before sowing, 1 irrigation 10Days after sowing, 2 after 15days interval till harvesting	42 (35.00)	78 (65.00)	0
13	Number of irrigation	3-4 light irrigation	57 (47.50)	7 (30.83)	26 (21.66)
14	Inter-culture	Earthling one to two times after inter culture (weeding and hoeing)	49 (40.83)	4 (28.33)	37 (30.84)
15	Plant protection	Disease; Club root Dip the seeding in Carbensazim solution 2 g/ 1 for	24 (20)	96 (80)	0

		20 minutes before transplanting Leaf Spot Mancozeb @ 2 g /l or Carbensazim @ 1 g/ liter Leaf Blight Mancozeb at @ 2.5 g/liter			
16	Time of harvesting	After 70 days of sowing	24 (20)	83 (69.2)	13 (10.8)
17	Yield	Early variety 200-250 q/ha, Late variety 150-200 q/ha.	76 (63.3)	44 (36.7)	0

Note: figures in the bracket show percentage.

The data compiled in the table no 1 show the extent of adoption of improved practices of respondents according to adoption level of recommended package of improved marigold production practices. It is evident from the table that out of the recommended variety only African marigold and pusa narangi was adopted by the majority (55.8 %) of the respondents, whereas 44 per cent had not adopted the recommended variety. Regarding soil type, soil preparation, sowing time and number of irrigation cent per cent of respondent agreed and fully adopted the recommendation. Regarding spacing between rows for early variety 63.3 per cent of the respondents fully adopted the recommendation while 36.7 per cent were not adopted, for late variety 50 per cent adopted the recommendation while 49.2 per cent not adopted. Regarding spacing between seed for both early and late varieties 19.2 per cent agreed and fully adopted while 80.8 per cent were not adopted. Regarding seed rate and seed size 50.8 per cent and 87.5 per cent were fully adopted the recommendation whereas 49.2 per cent and 12.5 per cent were not adopted respectively. Regarding fertilizer and manure application cent per cent of the respondents were partial adopted the recommendation. Regarding soil PH 18.3 per cent of respondents was known and fully adopted the recommendation while 81.7 per cent were not adopted. Regarding soil testing 38.4 per cent were given soil for testing whereas 61.6 per cent were not given. Regarding irrigation time 65 per cent of respondents were fully adopted the recommendation while 35 per cent not adopted. Regarding inter-culture cent per cent of the respondents were not adopted. Regarding plant protection 20 per cent of the respondents were fully adopted the recommendation whereas 80 per cent were partially adopted. Regarding time of harvesting 20 per cent of the respondents agreed and fully adopted the recommendation while 69.2 per cent were partially adopted and 10.8 per cent were not adopted. Regarding yield 63.3 per cent were fully adopted the recommendation while 36.7 per cent were partially adopted. Similar findings are also reported by **Poonia and Dangi (1997).**

Table: 2. Distribution of Respondents according to their Overall Extent of Adoption

Levels of adoption	Frequency	Percentage
Low(18-30)	22	18.34
Medium(31-42)	64	53.34
High (43-54)	34	28.36
Total	**120**	**100.0**

It is evident from the above table shows that 28.36 per cent of the respondents have had high level of adoption followed by medium level (53.34%) and low level of adoption (18.34 %). The possible reason could be the adoption of marigold growers is the function of dynamic inter-relationship of one's various backgrounds. Analysis of various attributes shows that the majority of respondents had medium level of adoption. Similar finding was reported by **(Singh, 2013).**

3.1. The influence of socio-economic characteristics on adoption of improved marigold production practices by the respondents

When two variables cannot be considered in the light of dependence and independence, the method of regression does not appear to be satisfactory. In such cases we are to estimate what this relation is and to what extent the two variables vary together and influence each other. The statistics which measure the relationship is

the coefficient of correlation or correlation coefficient (**Chandel, 2013).** These give an indication as to the nature of the relationship existing between the predicated and predicted variables. Only seven independent variables were taken in this study.

Table: 4 Correlation of selected variables with adoption of improved marigold production practices by the respondents

Variables	Person correlation (r)	Significance
Age	$-.583^{**}$	.000
Educational status	$.706^{**}$	.000
Caste	$-.573^{**}$	.000
Annual Income	$.740^{**}$	.000
Land Holding	$-.392^{**}$	.000
Family Type	$.074^{NS}$	.419
Occupation	$.312^{**}$	.001

**Significant at the 0.01 level.*Significance at the 0.05 level.

Table presents the correlation coefficient of adoption of improved marigold production techniques with seven causal variables. Communication behavior refers to the acquisition, processing, and sharing the information with regard to marigold production technology. The table revealed that adoption behaviour of marigold growers was positively and significantly correlated with education, annual income and occupation whereas age, caste and land size were found to have negatively and significantly correlated with communication behaviour. The table also revealed that family type did not have neither negative nor positive significant influence over communication behaviour. It inferred that these three independent variables predicting the information management behaviour of the marigold growers as correlation coefficient values were found positive and significant could be term as good predictors of information management behaviour of marigold growers. However age, caste and land size were found to be negatively correlated with adoption behaviour. These may be because of the fact that aged farmers become reluctant skeptic of acquiring, processing and sharing the information. Similarly caste found nothing to do with adoption behaviour as people of any caste is free to behave independently in the present changed scenario. Also land size has nothing to do with adoption behaviour this is because individual have free to seek, processed and share information regardless of the land size. The finding is supported by **Nagle (2011) and Verma (2013).** In general null hypothesis found to be not accepted and alternative hypothesis was accepted.

4. Conclusion

It was concluded that majority of the respondents were living in medium level of socio-economic status. The study has clearly brought out that the majority of the respondents had medium level of knowledge and had medium extent level of adoption of recommended marigold production practices. It was also found that that adoption behaviour of marigold growers was positively and significantly correlated with education, annual income and occupation whereas age, caste and land size were found to have negatively and significantly correlated with communication behavior. The family type did not have neither negative nor positive significant influence over communication behaviour. However age, caste and land size were found to be negatively correlated with adoption behaviour. These may be because of the fact that aged farmers become reluctant skeptic of acquiring, processing and sharing the information. In general null hypothesis found to be not accepted and alternative hypothesis was accepted.

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