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Knowledge of marigold cultivation technologies among farm women of Udaipur district, Rajasthan

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Abstract

The present study was conducted to assess the knowledge of marigold cultivation technologies among farm women of Udaipur district. A sample of 90 farm women involved in marigold cultivation was drawn 9 villages of three purposively selected panchayat samities of Udaipur district. Interview schedule was developed by the investigator and data were collected by using interview technique. Frequency, percentage, mean percent score were used to analyze data statistically. A component wise analysis of knowledge level revealed wide variation across practices. Farm women demonstrated excellent understanding of basic agronomic practices such as sowing time, propagation, spacing, and harvesting, each with a Mean Percent Score (MPS) of 100, likely due to traditional experience and routine involvement in these activities. Relatively good knowledge was noted in areas like transplanting (87.77 MPS), nursery management (79.01 MPS), and soil-climate suitability (75 MPS). However, technical areas such as the use of manure and fertilizers (60.85 MPS), and irrigation and weeding (62.22 MPS) received only average scores, suggesting gaps in scientific awareness. The lowest knowledge level was found in improved varieties (41.05 MPS) and insect pest management (41.35 MPS), indicating the need for targeted extension efforts. Overall, the average knowledge score stood at 57.51 MPS, with nearly 98.88 per cent of respondents falling into the average knowledge category.

Keywords: Farm women, knowledge, marigold cultivation, technologies

Introduction

Floriculture has emerged as a dynamic and high-value component of modern agriculture, offering diverse opportunities in production, value addition, and trade. Among the various floricultural crops grown in India, marigold (*Tagetes* spp.) occupies a significant position due to its short crop duration, high adaptability, low input requirement, and continuous market demand. It is widely cultivated across the country, especially in areas, where it contributes to the livelihoods of small and marginal farmers. Marigold is used extensively in religious rituals, festivals, decorations, and even in industrial applications such as dyes, essential oils, and traditional medicines, which enhances its commercial value. In recent years, the involvement of rural women in marigold cultivation has increased substantially. Women actively participate in multiple aspects of marigold production, including nursery preparation, sowing, transplanting, irrigation, weeding, harvesting, garland-making, and post-harvest handling. Their contribution plays a pivotal role not only in ensuring timely cultural operations but also in reducing labour costs and supporting household incomes. Despite their active participation, many women farmers still lack adequate knowledge of scientific and improved cultivation technologies. Knowledge of practices such as selection of improved varieties, spacing, nursery raising, insect- pest management, irrigation, and harvesting remains insufficient or confined to traditional methods passed through generations. Limited access to formal agricultural training, gender-based barriers in extension services, and inadequate exposure to new technologies contribute to this knowledge gap.

Enhancing the knowledge base of farm women is therefore vital to achieving sustainable and commercially viable marigold cultivation. Targeted interventions through need-based training programs, farmer field schools, capacity-building workshops, and access to digital agricultural advisories can bridge the information gap. Promoting women's knowledge in marigold technologies not only improves crop outcomes and income generation but also contributes to their empowerment, decision-making capabilities, and inclusive rural development. A focused study of farm women's knowledge level in marigold cultivation is thus essential for designing appropriate extension strategies and maximizing the potential of floriculture for economic upliftment of farm women.

Methodology

The present study was conducted in Udaipur district of Rajasthan state, which is located in the southern region of

the state. There are 20 panchayat samities in Udaipur district. As per the information gathered from the Department of Agriculture, Government of Rajasthan and the All India Coordinated Research Project (AICRP) on Marigold, RCA, MPUAT, Udaipur, marigold cultivation is practiced in Badgaon, Mavli, and Girwa panchayat samitis of Udaipur district. All these panchayat samitis were included in the study. *Three villages from each of the selected panchayat samiti were* selected with a total of 9 villages. The sample consisted of 90 farm women involved in marigold cultivation. Interview schedule was developed by the investigator and data were collected by using interview technique. Frequency, percentage, mean percent score were used to analyze data statistically.

Findings

Knowledge plays a fundamental role in shaping behavior and is essential for the successful adoption of agricultural technologies. When farm women are well-informed, they are more likely to develop a positive approach and take appropriate steps, including embracing new innovations. To help them adopt technologies that improve agricultural productivity, it is important to ensure timely access to updated and relevant agricultural information. In this context, the present investigation aimed to examine the knowledge of the farm women about the marigold cultivation technologies. The knowledge of the respondents was assessed under 11 major components *viz.* Soil and climate, Varieties, Sowing time and season, Propagation, Nursery raising, Transplanting of seedling, Spacing, Manure and Fertilizer, Weeding, pinching and irrigation, Insect and pest disease management and Harvesting.

Table 1: Component wise knowledge of marigold cultivation technologies among the respondents n=90

S. No.	Aspects	MPS
1.	Soil and climate	75
2.	Varieties	41.05
3.	Sowing time and season	100
4.	Propagation	100
5.	Nursery raising	79.01
6.	Transplanting of seedlings	87.77
7.	Spacing	100
8.	Manure and Fertilizers	60.85
9.	Weeding, pinching and irrigation	62.22
10.	Insect- pest management	41.35
11.	Harvesting	100
Overall		57.51

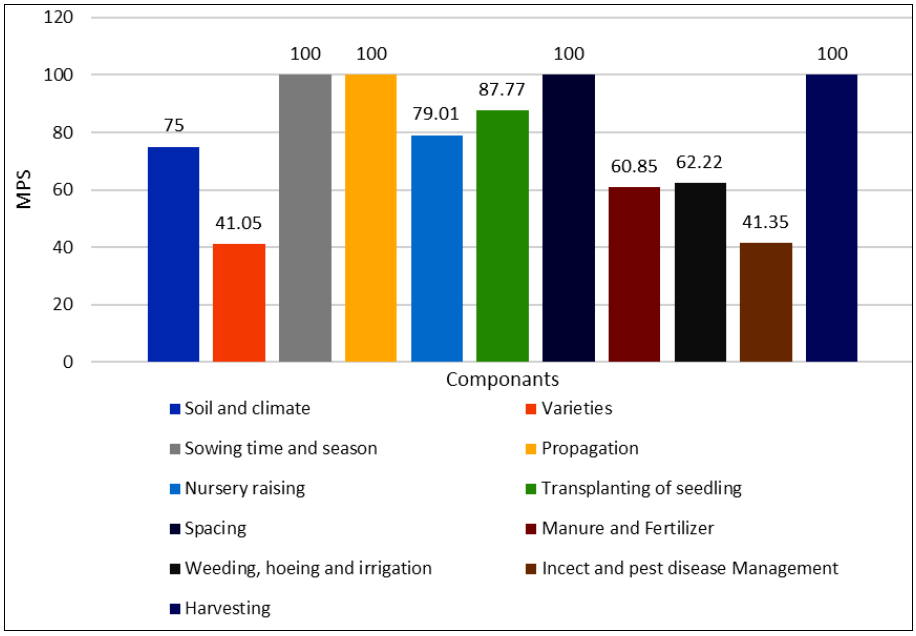

Fig 1: Component wise knowledge of marigold cultivation technologies among farm women

The component-wise analysis of knowledge among farm women regarding marigold cultivation (Table 4.2.8) reveals considerable variation across different components. The highest level of knowledge (MPS 100) was observed in four key aspects: sowing time and season, propagation methods, spacing, and harvesting. These findings suggest that such practices are deeply embedded in routine farming experience and possibly transmitted through generational learning or observational methods. Similarly, good knowledge was noted in transplanting of seedlings (87.77 MPS) and nursery raising (79.01 MPS), indicating a strong understanding of initial crop management practices. Respondents also exhibited good knowledge about the suitable soil and climatic conditions for marigold cultivation, with a score of 75 MPS, reflecting their familiarity with environmental requirements conducive to flower production.

However, average knowledge was recorded in the use of manure and fertilizers (60.85 MPS) and in practices such as weeding and irrigation (62.22 MPS). While these scores suggest partial awareness, they also highlight the need for improving technical know-how regarding the correct dosage and timing of these agronomic inputs. Notably, the lowest MPS was reported for knowledge about improved marigold varieties (MPS 41.05) and insect-pest management (MPS 41.35), indicating significant gap in these technical areas.

The overall mean per cent knowledge score across all components was found to be 57.51 MPS, indicating a

moderate level of understanding among the respondents. This suggests that while some basic knowledge exists, there are noticeable gaps in technical know-how.

Table 2: Overall knowledge of the farm women regarding marigold cultivation technologies

S. No.	Categories	f	%
1.	Poor (Below 33.3%)	0	0
2.	Average (33.3-66.6%)	89	98.88
3.	Good (Above 66.6%)	1	1.11

The findings presented in Table 2 provide a summary of the respondent's overall knowledge level related to marigold cultivation. It was observed that a large majority of the respondents (98.88%) fell under the average knowledge category. Only one respondent was categorized as having good knowledge, while none of the farm women was found in the poor knowledge category.

This distribution suggests that while the respondents had a moderate understanding of marigold cultivation technologies, a very few had in-depth or advanced knowledge of technical aspects such as varietal selection, insect pest management, and nutrient application. The dominance of the average category implies that their knowledge is mostly practical and experiential, likely developed through years of traditional farming rather than formal training or exposure to scientific methods. The results align with findings from similar studies. For example, Sharma and Jamwal (2016) [2] in a study conducted in the Kathua district of Jammu and Kashmir found that most marigold growers fell under the medium knowledge category, with very few exhibiting high technical competence. This was attributed to limited access to extension services and lack of targeted training. Similarly, Kumari *et al.* (2020) [1] in Bihar reported that although farm women actively participated in floriculture, their knowledge was mostly confined to basic cultivation practices, with technical aspects often neglected due to insufficient agricultural support and poor exposure to demonstrations or improved technologies.

Conclusion

The study revealed that farm women of Udaipur district possessed varying levels of knowledge regarding marigold cultivation technologies. High awareness was observed in basic practices such as sowing season, propagation, spacing, and harvesting, likely due to routine engagement and traditional experience. Moderate knowledge was recorded in areas like nursery raising, transplanting, and soil suitability. However, significant gaps were evident in technical domains, particularly in the identification of improved varieties and pest and disease management. The overall mean percent score stood at 57.51, indicating an average level of knowledge among respondents. These findings highlight the need for targeted extension interventions to enhance scientific awareness and bridge the knowledge gaps, especially in specialized agronomic and plant protection practices.

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