

Original Research Article

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## Evaluation of African Marigold (*Tagetes erecta* L.) in Summer Rice Fallows of Wayanad, India

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### ABSTRACT

African marigold (*Tagetes erecta* L.) is a herbaceous annual flowering plant belonging to family Asteraceae. Apart from its popular use in landscape gardening and garland making, it is now gaining popularity as a natural source of food colour. It is found in different colour shades of yellow and orange with different fragrance. A study was conducted in summer rice fallows of Wayanad during 2016-17 to evaluate the performance of 3 hybrids of marigold based on vegetative, flowering and yield characters. The experiment was laid out in Randomized Block Design with 5 replications and 16 plants per replication. As per the observations taken at vegetative stage, the maximum height was observed in Garland Orange (111.36 cm). The hybrid with the highest plant spread and number of branches gave the highest flower yield. Garland Orange exhibited the highest plant spread (26.25 cm, 42.19 cm, 49.49 cm) and number of primary branches (4.43, 8.00, 15.54) at 30, 60 and 90 days after transplanting. At the flowering stage, the minimum number of days taken for 50 per cent of flowering (95.22 days) was observed in Maxima Yellow which is on par with Garland Orange (95.67 days). The yield parameter, such as number of flowers per plant was highest in Maxima Yellow (75.09) followed by Inca Yellow (67.93). The highest individual flower weight of 6.20 g was reported in Garland orange. Yield per plant (298.7 g) and Yield per plot (4.72 kg) was maximum in Garland Orange followed by Inca yellow (251.5 g and 4.02 kg, respectively). Among the 3 hybrids, Garland Orange performed better in the humid subtropical region of Wayanad followed by the yellow hybrid, Inca Yellow.

#### Keywords

African marigold,  
Food colour  
Summer rice  
fallows, Garland  
orange, Randomized  
block design

#### Article Info

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### Introduction

African Marigold (*Tagetes erecta* L.) belonging to family Asteraceae is the most commonly grown loose flower and is extensively used in religious and social functions. It is gaining popularity on account of its easy culture, wide adaptability, and increasing demand in the Asian subcontinent.

Sometimes, the whole plant is used for decorations. It can be planted in beds for mass display, in mixed borders and can also be grown in pots. Different varieties of African marigold vary in plant height and spread, flower size, quality and yield. The flowers are large and globular in shape. Colour shades vary from light yellow to creamy yellow, bright yellow, cadmium orange, deep orange,

sulphur yellow and white. It is now a days gaining commercial importance as a source of carotenoid pigments. Objective of the study was, the assessment of *Tagetes erecta* L. in summer rice fallows and evaluate the performance of 3 hybrids of marigold based vegetative, flowering and yield character.

### Materials and Methods

A study was conducted in summer rice fallows of Wayanad during 2016-17. The experiment was laid out in Randomized Block Design with 5 replication and 16 plants per replication. The seedlings are transplanted from nursery after four weeks of sowing and planted at the spacing of 30x30 cm. Irrigation and manuring was done at proper intervals. Pinching was done 30 days after planting to encourage the branching.

### Treatment details

T1- Inca Yellow  
T2- Maxima Yellow  
T3 - Garland Orange

### Results and Discussion

Among the 3 hybrids, Garland Orange performed better in terms of yield per plant and Individual flower weight in the humid subtropical regions of Wayanad followed by the yellow hybrid, Inca Yellow. Evaluation of twenty five genotypes of French marigold under Naunu Solan conditions carried out by Sharma (2014) result in significant difference for all the characters studied. The genotypes ‘MS 10X Spray Boy’ and ‘MS 5 X Spray’ were promising. Sharma, P, 2014 (Table 1–3).

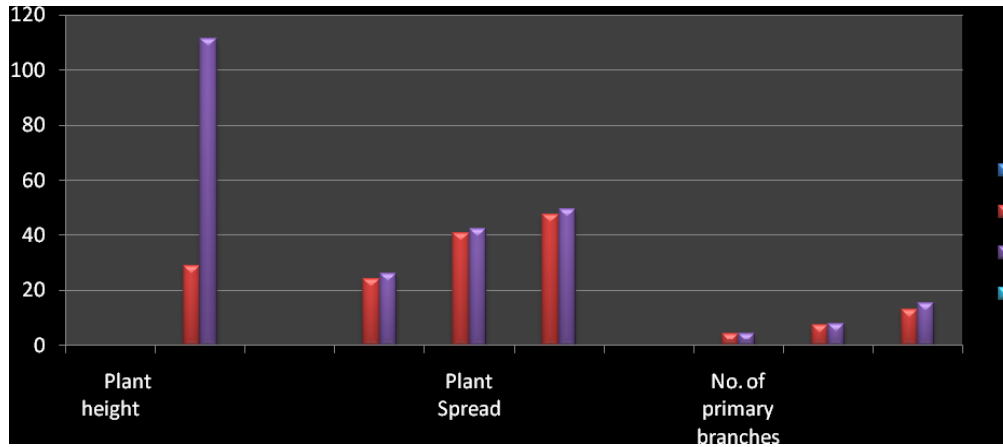
**Table.1** Vegetative parameters

Treatments	Plant Height (cm) (60 DAT)	Plant Spread (cm)			Number of Primary branches		
		30 <sup>th</sup> day	60 <sup>th</sup> day	90 <sup>th</sup> day	30 <sup>th</sup> day	60 <sup>th</sup> day	90 <sup>th</sup> day
T1	29.0	24.22	40.88	47.48	4.08	7.35	13.13
T2	68.8	21.67	26.42	31.05	2.42	4.11	7.21
T3	111.3	26.25	42.19	49.49	4.43	8.00	15.54
CV	<b>5.648</b>	<b>12.662</b>	<b>8.913</b>	<b>8.933</b>	<b>10.452</b>	<b>4.806</b>	<b>4.269</b>
CD (0.05)	<b>5.727</b>	-	<b>4.745</b>	<b>5.560</b>	<b>0.556</b>	<b>0.455</b>	<b>0.745</b>

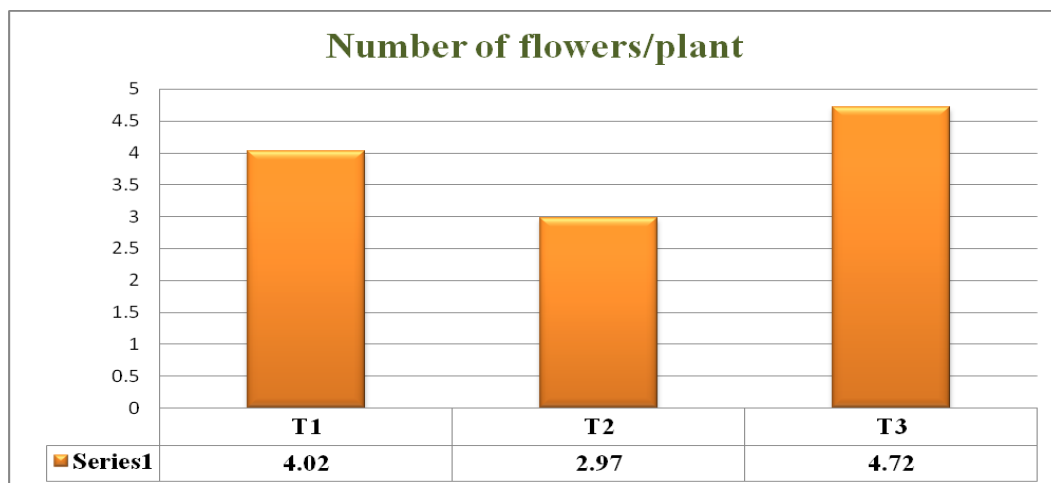
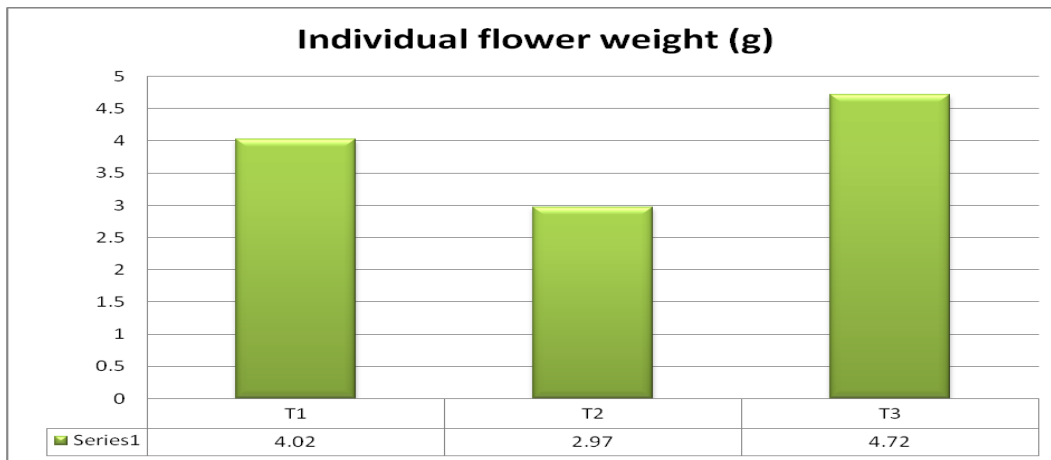
**Table.2** Flowering and yield parameters

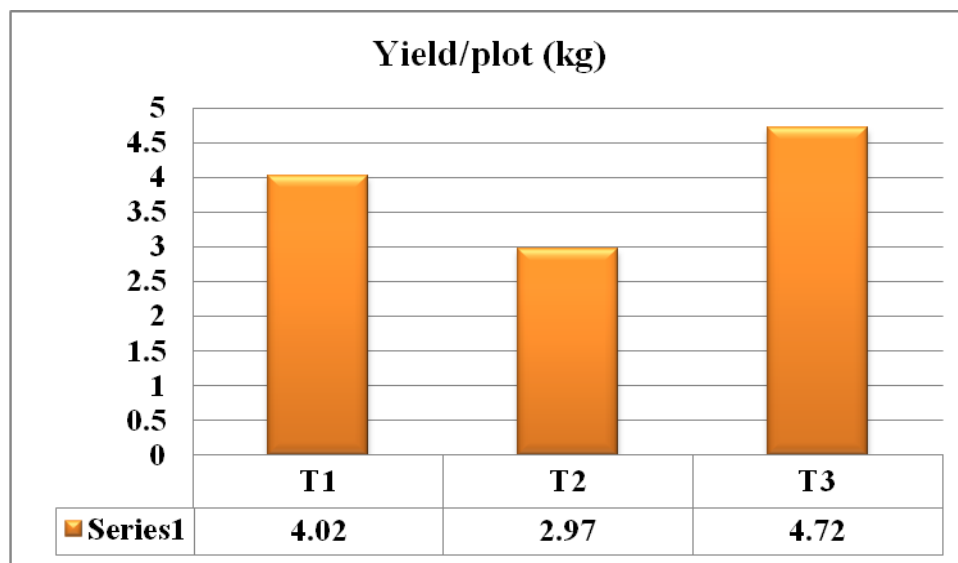
Treatment s	Days to 50% flowering	Flower diameter (cm)	Number of flowers/plant	Individual flower weight (g)	Yield /Plant (g)	Yield/plot (Kg)
T1	138.44	6.58	67.93	3.70	251.55	4.024
T2	95.22	4.79	75.09	2.47	185.7	2.972
T3	95.67	6.21	48.20	6.19	298.7	4.726
CV	<b>2.658</b>	<b>4.605</b>	<b>4.603</b>	<b>9.900</b>	<b>17.55</b>	<b>9.160</b>
CD (0.05)	<b>4.255</b>	<b>0.394</b>	<b>4.279</b>	<b>0.595</b>	<b>59.98</b>	<b>0.522</b>

**Chart.1** Vegetative parameters



**Table.2** Flowering and yield parameters





Evaluated the genotypes of French marigold (*Tagetes patula*) under Nauni, Solan (HP) 76p. Inca Yellow was classified as outstanding cultivar with rating greater than equal to 5 in an evaluation based on vegetative and floral characters at central Florida by Kelly and Harbaugh (2002). All the farmers are ready to take the crop in festival season especially during onam occasion because they get high income within a short period. The hybrids Inca Yellow and Garland Orange can be recommended for commercial cultivation in Wayanad district. The studies revealed that Double Orange, Garland Orange and Sarpan-11wer superior with respect to vegetative growth, flower yield and quality of marigold.

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