EFFECT OF INTEGRATED NUTRIENT MANAGEMENT ON GROWTH, FLOWERING AND YIELD OF AFRICAN MARIGOLD (*Tagetes erecta* L.) CV. PUSA NARANGI GAINDA

Summary
of
Thesis

Submitted to
Babasaheb Bhimrao Ambedkar University
(A Central University)
Lucknow

BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY
LUCKNOW
प्रज्ञा शील करूणा
ESTABLISHED 1996

For the Degree of

Doctor of Philosophy

In

HORTICULTURE

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2022

Summary of Thesis

The current investigation entitled **"Effect of integrated nutrient management on growth, flowering and yield of African marigold (*Tagetes erecta* L.) cv. Pusa Narangi Gainda"** was carried out at Horticultural Research Farm, Department of Horticulture, Babasaheb Bhimrao Ambedkar University, Lucknow during the winter season of 2020-21 and 2021-22, respectively. The experimental consisted of 11 treatments with 3 replication of variety Pusa Narangi Gainda in Randomized Block Design. The silent features of the experiment are summarized below:-

1) The highest plant height was noticed by the application of 60% RDF + 3 t ha^{-1} Vermicompost + *Azotobacter* + *Azospirillium* + PSB (T_8) which was at per with 75% RDF + 2 t ha^{-1} Vermicompost + *Azotobacter* + *Azospirillium* + PSB (T_5). The lowest plant height was observed in control.

2) The maximum number of primary branches per plant was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum number of primary branches per plant observed in control.

3) The maximum length of primary branches (cm) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum length of primary branches was observed in control.

4) The maximum number of secondary branches was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum number of secondary branches was noted in control.

5) The maximum plant spared was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum plant spared was seen in control.

6) The maximum number of leaves was noticed by the application of T_8 treatment which was at per with T_5 treatment. The lowest number of leaves was found in control.

7) The heights fresh weight of plant was noticed by the application of T_8 treatment which was at per with T_5 treatment. The lowest fresh weight of plant was found in control.

8) The heights dry weight of plant was noticed by the application of T_8 treatment which was at per with T_5 treatment. The lowest dry weight of plant was revealed in control (T_1) .

9) The minimum days to bud initiation was noticed by the application of 45% RDF + 4 t ha^{-1} Vermicompost + *Azotobacter* + *Azospirillium* + PSB (T_{11}) which was at per with T_8. The highest days to bud initiation was found in control.

10) The minimum number of days taken to open first flower was noticed by the application of T_{11} treatment which was at per with T_8 treatment. The highest number of days taken to open first flower was stated in control.

11) The minimum number of days taken for 50% flowering was noticed by the application of T_{11} treatment which was at per with T_8 treatment. The highest data for 50% flowering was seen in control.

12) The maximum duration of flowering (days) was noticed by the application of T_{11} treatment which was at per with T_8 treatment. The lowest duration of flowering (days) was found in control.

13) The maximum diameter of flower was noticed by the application of T_8 treatment which was at per with T_5 treatment. The lowest diameter of flower was found in control.

14) The heights dry weight of flower was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum dry weight of flower was recorded in control.

15) The maximum number of picking was noticed by the application of T_{11} treatment which was at per with T_8 treatment. The minimum number of picking value was

seen in control.

16) The maximum number of flower per plant was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum number of flower per plant was found in control.

17) The maximum average weight of flower (g) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum average weight of flower (g) was observed in control.

18) The height flower yield per plant (g) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum flower yield per plant was recorded in control.

19) The height flower yield per plot (kg) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum flower yield/plot was seen in control.

20) The height flower yield per ha (q/ha) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum flower yield/ha was found in control.

21) The minimum physiological loss in weight (%) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The maximum physiological loss in weight (%) in control.

22) The maximum shelf life of flower was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum shelf life of flower was observed in control.

23) The maximum net profit (Rs/ha) was noticed by the application of T_8 treatment which was at per with T_5 treatment. The minimum net profit (Rs/ha) was observed in control.

Conclusion

Based on present investigation, the application of T_8 (60% RDF + 3 t ha^{-1} Vermicompost + *Azotobacter* + *Azospirillium* + PSB) treatment performed better in terms of growth, flowering, yield and quality of African marigold cv. Pusa Narangi Gainda found greater performance followed by (75% RDF + 2 t ha^{-1} Vermicompost + *Azotobacter* + *Azospirillium* + PSB) T_5 treatment except for days to bud initiation, days taken to open first flower, days taken for 50% flowering, duration of flowering, number of picking and shelf life of flower. As a result, the uses of combine application of biofertilizers, inorganic fertilizers and vermicompost may be recommended for increased crop yield and overall marigold improvement. Therefore the treatment T_8 (60% RDF + 3 t ha^{-1} Vermicompost + *Azotobacter* + *Azospirillium* + PSB) treatment may be recommended for higher yield and as well as higher return in African marigold cv. Pusa Narangi Gainda.