

Effect of bioenzyme on growth, flower yield and vase life of China aster

K. KARTHIRAJ, R.F. PATIL, S.D. VASMATE, S.S. DIGRASE AND RR. MANOLIKAR

See end of article for authors' affiliations

Correspondence to :

S.D. VASMATE

Department of Horticulture,
Marathwada Agricultural
University, PARBHANI
(M.S.) INDIA

Accepted : May, 2008

ABSTRACT

An experiment entitled "Effect of bioenzymes on growth, flower yield and vase life of China aster" was carried out at Department of Horticulture, M.A.U., Parbhani during the *rabi* season of 2003-04. Shaktizyme 2 ml. per litre of water applied three times at 15 days interval commencing from 30 DAT resulted significantly maximum height, branches per plant, number of leaves, fruit bud emergence, 50% flowering, number of flower per plant and yield per hectare. Treatment 3 ml. of Boom flower per litre of water resulted maximum diameter of flower and vase life. The lowest values for all above parameters were recorded in control.

Key words : Bioenzyme, Growth, Flower, Vaselife.

China aster which is known as aster is one of the most popular showey and free blooming annuals belonging to the family asteraceae. Aster flowers are used commercially for interior decoration, land scaping in window boxes and worships. There is great scope of increasing area under this crop. Maximization of flower yield with quality and extending vase life are of the prime importance in the cultivation of aster. Bioenzymes are extracts obtained from *Asephyllum modasum* a sea weed algae known to be rich in cytokinin and auxin precursor, enzyme and hydrolysed protein. The literature reviewed has indicated that some work of efficacy of bioenzyme on growth, yield and quality of vegetable, like tomato, gaillardia has been undertaken and from these studies it is found that these bioenzymes are most useful in increasing the yield levels of these crops. However, such types of studies have not been undertaken in flower crop like china aster. Therefore, the present investigation was undertaken to see the efficacy of bioenzyme on growth, flower yield and vase life of china aster.

MATERIALS AND METHODS

An experiment was carried out at the Department of Horticulture, Marathwada Agricultural University, Parbhani during the *rabi* season of 2003-04. Experiment was laid out in randomized block design with three replication and ten treatments viz. (T₁) 1 ml of shaktizyme / lit. of water (T₂) 2 ml of shaktizyme / lit. of water, (T₃) 3 ml of shaktizyme / lit. of water, (T₄) 1 ml of New phyton 250 / lit. of water, (T₅) 2 ml of New phyton 250 / lit. of water, (T₆) 3 ml of New phyton 250 / lit. of water, (T₇) 1 ml of Boom flower / lit. of water, (T₈) 2 ml of Boom

flower / lit. of water, (T₉) 3 ml of Boom flower / lit. of water, (T₁₀) control. First spraying of bioenzymes was done just after transplanting, 2nd and 3rd spraying were given subsequently at 15 days interval from the first spraying. The plot size was 1.5 x 2.25 m. The seedlings of china aster var. "California Giant mix" were raised on the raised beds and 6 weeks old seedlings were transplanted at the spacing of 45 x 30 cm. The observations on growth, flowering and yield were recorded and data were analysed.

RESULTS AND DISCUSSION

The data presented in Table 1 revealed that all the vegetative growth parameters were significantly influenced by application of bioenzymes. The plant height recorded at 90 days after transplanting was maximum in treatment (T₂) 75.46 cm where shaktizyme 2 ml per lit. of water was sprayed. The shortest plant height (65.20 cm) were recorded in control. Similarly maximum number of primary branches (23.98) and number of leaves per plant (76.94) were recorded in the treatment T₂, while least number of branches (16.66) and leaves (64.86) were observed in control. The bioenzymes increased height of plant, number of primary branches and number of leaves, which resulted in the strong vegetative growth. These results are supported by findings of Dhutraj *et al.* (2003) in gaillardia.

First bud emergence of the plant from the date of transplanting was significantly enhanced by the bioenzymes. The enhancement was more pronounced in the treatment shaktizyme 2 ml. per lit. (T₂) which enhanced the flowering process by about 7 days than control. Least number of days required for 50% flowering