



Effect of bioenzymes on flowering, yield and vase life of marigold (*Tagetes erecta* Linn.)

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ABSTRACT

An experiment was conducted at Department of Horticulture, MAU, Parbhani to study the effect of bioenzymes on flowering yield and vase life of marigold. The results revealed that application of Bio-veg (3 ml/l of water) was effective for advancement of flowering, yield and vase life of flowers followed by Bio-k (3ml/l of water) for increasing number of flowers/plant.

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Key words : Bioenzyme, Marigold, Vase life

Marigold is one of the most commonly grown flower. It is used in religious and social functions in different forms. The population of nematode can be checked effectively by growing marigold plants in the field. Now a days, foliar application of bioenzymes is becoming an extremely important tool in floriculture for manipulating flowering in garden flower crops. Bioenzymes are the commercial products obtained from *Asephyllum modascum* a seed weed algae known to be rich in cytokinin and auxin precursor enzymes and hydrolysed protein are used to substitute for growth regulators and fertilizers. The applications of bioenzymes on vegetable crops like tomato, brinjal etc. has undertaken but it was not seen in flower crops like marigold. Hence, the present study was undertaken to investigate influence of bioenzymes on flowering, yield and vase life of marigold.

MATERIALS AND METHODS

The field experiment was carried out at Department of Horticulture, college of Agriculture, MAU, Parbhani during 2005-2006. The experimental site was having medium black soil with uniform texture. The bioenzymes used were Bio-Veg, Bio-K and Amrutzyme. Bio-veg was an organic manure and natural extract of sea weed, vermicompost and natural humus. Bio-K was biologically activated and proteinized botanical extract containing *Adhatoda vasakas* 0.01 %, *officinalis* 0.01 %. *Emblica ribis* 0.01 % and Aqua solvent 99.97 %. Amrutzyme was

an naturally hydrolysed protein and amino acid. It contains a naturally hydrolysed protein amino acid 3 %, N.P. ethoxylate 3 % and aqueous base 94 %.

Transplanting of healthy marigold seedling was done at 45 x 30 cm spacing. The gap filling was done 15 days after transplanting. The crop was supplied with 100 : 50 : 50 kg NPK/h. Full dose of P, K and half dose of N were given at the time of transplanting and remaining half dose of N was applied one month after transplanting. The three bioenzymes were sprayed at three levels *i.e.* 1 ml/l. of water, 2 ml/l. of water and 3 ml/l. of water. The experiment was laid out in randomized block design with three replications and ten treatments. The experimental plants were sprayed with three sprays of bioenzymes at 15 days interval. First spray was given at vegetative growth stage, second at flower initiation stage and third spray at 50 % flowering stage. The five plants were selected from each plot for taking observations in respect of flowering, yield and vase life of flower.

RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarised under following heads:

Days to 50 % flowering :

It is clear from the Table 1 that treatment T₃ (Bio-veg 3ml/l) required less number of days to 50 % flowering