Effect of Benzyladenine and Epibrassinolid on antioxidant capacity and biosynthesis of pigments in marigold (Calendula officinalis L.).

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Effect of Benzyladenine and Epibrassinolid on antioxidant capacity and biosynthesis of pigments in marigold(Calendula officinalis L.). Fereshteh Shabani Soltanmoradi This study was conducted to investigate the effect of Benzyladenine (BA) and Epibrassinolid (EPI) on yield, antioxidant activity and pigment synthesis in marigold(Calendula officinalis L.). The research carried out as a factorial experiment based on completely randomized block design with two factors. The first factor (A) was Benzyladenine at 4 levels (0, 1, 5 and 10 mgl-1) and second factor (B) was Epibrassinolid at 4 levels (0, 1, 5 and 10 mgl-1) in 3 replications with 16 treated plants. Results of data analysis of variance revealed that application of Benzyladenine and Epibrassinolid had a positive impact on plant yield parameters such as flower fresh and dry weight, growth, plant height and number of leaves. Comparision of mean squares datas, showed that highest antioxidant capacity was observed in plants treated with 5mgl-1 epibrassinolid without benzyl adenine. Maximal flovonoid consistency in 3 wave lengths 270, 300 and 330 nanometer, was observed in plants treated with 10 mgl-1 Epibrassinolid and 10 mgl-1 Benzyl Adenine. The maximal antocianin was observed in plants treated without Epibrassinolid and 1mgl-1 Benzyl Adenine. According to results, using Benzyl Adenine and Epibrassinolid together, has significant effects on catalaz and peroxidaz enzymes, phenol, cholorophyl (a), antocyanin and carotenoid in marigold(Calendula officinalis L.).

Keywords : Marigold, Antioxidant Capacity, Flovonoid, Epibrassinolid, Pigment