

RESPONSE OF *Calendula officinalis* L. PLANTS TO SPRAYING OF LIQUORICE AND ORGANIC FERTILIZER FOR POULTRY DROPPING EXTRACTS .

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ABSTRACT

This experiment was carried out in the Biology Department, College of Education for pure sciences, University Diyala, on *Calendula officinalis* L. plants((yellow flower), to investigate the effect of foliar spraying on the plants with three concentrations of liquorice 0 , 2 , 3 g/L and interacted with foliar spraying the plants with four concentrations of organic fertilizer for poultry dropping 0 , 10 ,15 , 20 ml/L on growth and flowering, by using The Factorial Experiment within Completely Randomized Design, each treatment replicated four times. The results were summarized as follows: spraying liquorice extract conc. 3 g/L, record highest significant values for plant height(28.4 cm) , number of branches (5.2 branch/plant) , number of leaves (45.7 leaf/plant) , leaves contents of chlorophyll (39.6 spad) , emergence earliness of flower buds(84.0 days) and significant increase in number of flowers (10.1 flower/plant), flower diameter (6.5 cm). Spraying the plants with conc. 20ml/L of organic fertilizer of poultry manner recorded highly significant values of plant height, number of branches, number of flowers and leaves contents of chlorophyll reaching 25.8 cm, 4.9 branch/plant, 41.6 leaf/plant and 38.6 سباد, respectively, besides, the duration of flowers buds emergence and number of flowers reaching 82.4 days and 9.5 flower/plant. The interaction between spraying liquorice extract conc. 3 g/L and spraying the plants with conc. 20ml/L of organic fertilizer for poultry manner record highly significant values of plant height, number of branches, number of leaves and number of flowers. All interaction between treatments achieved increasing flower diameter compared with the control treatment.

Key words: *Calendula officinalis* L., liquorice, poultry manner .