The effect of spraying with a suspension of active yeast and a solution of licorice on the vegetative and flowering growth of plant *Gazania splendens* Hort.

Wageeha M. Essaa Department of Horticulture and Land Scape - College of Agriculture University of Basrah wajeehahalfaragh@gmail.com

Abstract

The experiment was conducted in February 2023-2024, six months in the College of Agriculture, University of Basrah fabric canopy, the experiment aimed to study the effect of spraying with a suspension of active yeast and a solution of licorice on the vegetative and flowering growth of the Gazania splendens plant, the experiment included 9 factorial treatments in which two factors interacted, namely spraying leaves with a suspension of active yeast at concentrations of 0, 5 or 10g.L-1 and a solution of licorice at concentrations of 0, 10 or 15 mg.L-1, the treatment was done in three sprays, with an interval of 15 days between one spray and the next, use a Randomized Complete Block Design (R.C.B.D.) with a factorial experiment with three replicates, three plants for each experimental unit, so the number of plants is 27 plants, and using the Revised Least Significant Differences (R.L.S.D) test to compare the means at the 5% probability level, the following are the most important results reached: spraying with a suspension of active yeast at a maximum concentration of 10mg.L-1 resulted in a significant increase in plant height, number of side branches, number of leaves, number of flowers, flower diameter, and percentage of dry matter in flowers at the same time, this concentration caused a significant delay in flowering. Spraying with a licorice solution 10mg.L-1 resulted in a significant increase in plant height, number of side branches, percentage of dry matter in the shoot, number of flowers, flower diameter, and percentage of dry matter in flowers, at the same time, this concentration caused a significant delay in flowering, the binary interactions had a significant effect on all the traits under experiment. As for the study of the active substances in the plant, it showed that the number of active chemical compounds recorded in the plant extract of the untreated samples reached 33 compounds, while in the plants treated with licorice extract and the active yeast suspension, the number of compounds decreased. reaching 26 and 28 compounds, respectively.

Keyword: suspension active yeast, licorice, vegetative, Gazania splendens, Active compounds