**Effect of Manganese and Potassium humate on some vegetative and yield parameters of tomato plant**

*Lycopersicon esculentum* Mill grown in plastic house

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**Abstract**

A field experiment was conducted in a plastic house in Al-wattifiyah / Babylon Province during 2016/2017 season, soil texture was Loamy Sand with 3 levels of manganese element (0, 20, and 40 mg L⁻¹) using MnSO₄·4H₂O, and 4 levels of potassium humate (0.10, 20, and 30 mL L⁻¹), and their interaction on some vegetative and yield parameters of tomato plant Shahira variety. Four spraying date among 20 days each. The experiment design was according to RCBD with three replicates, means were compared using L.S.D at 0.05 probability level.

The result showed, the treatment (40 mg Mn L⁻¹) has significant increases in plant height, total leaf number, leaf area, plant dry matter, leaf content from chlorophyll, leaf dry matter percent, inflorescence number per plant, and number of flowers per inflorescence, number of fruit per plant, fruit weight, total yield of plant, and total yield per m² gave high value was 212.65 cm, 42.7 leaf, 172.6 dsm², 185.9 gm, 45.03 spad, 11.8 %, 10.2 inflorescence, 11.7 flowers, 47.6 fruits, 101.8 g m, 4,880 kg, and 16.252 kg.m² respectively. While potassium humate spraying treatment 30 mL L⁻¹ gave high value to same parameters above with 226.4 cm, 44.4 leaf, 180.2 dsm², 196.4 gm, 46.53 spad, 11.8 inflorescence, 10.3 flowers, 51 fruits, 105.5 gm, 5.394 kg, and 17.862 kg.m² respectively. The interaction treatment (40 mg Mn L⁻¹ + 30 mL L⁻¹ potassium humate) shows the highest value of all parameters mentioned above.

**Key words**: Manganese, Potassium humate, Tomato, Shahira

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**References**

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