

# THE EFFECT OF ADDING HUMIC ACID, SPRAYING SOME FOLIAR TREATMENTS, ON CHEMICAL COMPONENTS OF FRUITS OF CHILI PEPPER PLANTS (*Capsicum annuum* L.) PLANTED IN UNHEATED PLASTIC HOUSES CONDITIONS

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## ABSTRACT

The experiment was conducted during the winter agricultural season 2020-2021 in one of the unheated greenhouses with dimensions (9 x 50) m and an area of 450 m<sup>2</sup> belonging to the fields of the department of horticulture at the college of agriculture and marshes - Dhi Qar University, south of Iraq, with the aim of studying the effect of adding humic acid, spraying some foliar treatments, on chemical components of fruits of two hybrids of hot pepper plants (Barbarian F1 and Kizil F1). Experiment included 30 factorial treatments which were the possible combinations of two hybrids (Barbarian F1 and Kizil F1), three concentrations of humic acid 0, 1, 2 g. l<sup>-1</sup> and five foliar spray treatments (aqueous extract of jujuba leaves at a concentration (75) g. l<sup>-1</sup>, aqueous extract of pomegranate peels at a concentration of 5 ml. l<sup>-1</sup>, calcium at a concentration of 1.5 ml. l<sup>-1</sup>, arginine acid 200 mg. l<sup>-1</sup> in addition to control treatment (spraying with distilled water only). Factorial experiment was carried out according to the split-split plot design in R.C.B.D with three replicates. The results were analyzed by the analysis of variance and mean values were compared using the Revised Least Significant Difference Test at 0.05 probability. Results showed that the fruits of Barbarian F1 hybrid excelled in the concentration of total chlorophyll and total soluble solids, while fruits of Kizil F1 hybrid, were superior in phenols, capsaicin. Adding humic acid at the concentration of 2 g. l<sup>-1</sup> led to significant increase in the content fruits of total soluble solids and vitamin C, and the concentration of 1 g. l<sup>-1</sup> caused an increment in concentration of total chlorophyll, while the concentration of 0 g. l<sup>-1</sup> was superior in increasing the concentration of phenols and capsaicin in fruits. Spraying aqueous extract of jujuba leaves at the concentration of (75) g. l<sup>-1</sup>, arginine acid at the concentration of 200 mg. l<sup>-1</sup> and calcium at the concentration of 1.5